Manifest for Grant Application # GRANT13577835

Grant Application XML file (total 1):

1. GrantApplication.xml. (size 25820 bytes)

Forms Included in Zip File(total 6):

1. Form ProjectNarrativeAttachments_1_2-V1.2.pdf (size 16139 bytes)

2. Form SF424_3_0-V3.0.pdf (size 24190 bytes)

3. Form SF424A-V1.0.pdf (size 22678 bytes)

4. Form EPA4700_4_3_0-V3.0.pdf (size 22655 bytes)

5. Form OtherNarrativeAttachments_1_2-V1.2.pdf (size 15914 bytes)

6. Form EPA_KeyContacts_2_0-V2.0.pdf (size 37389 bytes)

Attachments Included in Zip File (total 7):

1. OtherNarrativeAttachments_1_2 OtherNarrativeAttachments_1_2-Attachments-1234-AMS Quality Assurance Statement 3-15-2022.pdf application/pdf (size 113327 bytes)

2. ProjectNarrativeAttachments_1_2 ProjectNarrativeAttachments_1_2-Attachments-1240-Phila AMS_EPA grant application_3-15-2022.pdf application/pdf (size 508301 bytes)

3. OtherNarrativeAttachments_1_2 OtherNarrativeAttachments_1_2-Attachments-1239-ARP - Support Letters.pdf application/pdf (size 588865 bytes)

4. OtherNarrativeAttachments_1_2 OtherNarrativeAttachments_1_2-Attachments-1238-ARP - Resumes.pdf application/pdf (size 1231031 bytes)

5. OtherNarrativeAttachments_1_2 OtherNarrativeAttachments_1_2-Attachments-1237-Budget Table_Phila AMS.xlsx application/vnd.openxmlformats-officedocument.spreadsheetml.sheet (size 21294 bytes)

6. OtherNarrativeAttachments_1_2 OtherNarrativeAttachments_1_2-Attachments-1236-ARP Grant RFA 01-20-2022_final.pdf application/pdf (size 537488 bytes)

7. OtherNarrativeAttachments_1_2 OtherNarrativeAttachments_1_2-Attachments-1235-Phila AMS EJ brochure.pdf application/pdf (size 161143 bytes)

BUDGET INFORMATION - Non-Construction Programs

OMB Number: 4040-0006
Expiration Date: 02/28/2022

SECTION A - BUDGET SUMMARY

Grant Program Function or Activity (a)	Catalog of Federal Domestic Assistance Number (b)	Estimated Unobligated Funds		New or Revised Budget		
		Federal (c)	Non-Federal (d)	Federal (e)	Non-Federal (f)	Total (g)
1. ARP	66.034	$	$	$ 392,658.00	$	$ 392,658.00
2.						
3.						
4.						
5. Totals		$	$	$ 392,658.00	$	$ 392,658.00

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SECTION B - BUDGET CATEGORIES

6. Object Class Categories	GRANT PROGRAM, FUNCTION OR ACTIVITY (1) ARP	(2)	(3)	(4)	Total (5)
a. Personnel	$ 131,114.00	$	$	$	$ 131,114.00
b. Fringe Benefits	50,888.00				50,888.00
c. Travel	9,406.00				9,406.00
d. Equipment	58,000.00				58,000.00
e. Supplies	20,000.00				20,000.00
f. Contractual	56,250.00				56,250.00
g. Construction					
h. Other	55,000.00				55,000.00
i. Total Direct Charges (sum of 6a-6h)	380,658.00				$ 380,658.00
j. Indirect Charges	12,000.00				$ 12,000.00
k. TOTALS (sum of 6i and 6j)	$ 392,658.00	$	$	$	$ 392,658.00
7. Program Income	$	$	$	$	$

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SECTION C - NON-FEDERAL RESOURCES

(a) Grant Program	(b) Applicant	(c) State	(d) Other Sources	(e)TOTALS
8. ARP	$	$	$	$
9.				
10.				
11.				
12. TOTAL (sum of lines 8-11)	$	$	$	$

SECTION D - FORECASTED CASH NEEDS

	Total for 1st Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
13. Federal	$ 392,658.00	$ 98,164.00	$ 98,164.00	$ 98,165.00	$ 98,165.00
14. Non-Federal	$				
15. TOTAL (sum of lines 13 and 14)	$ 392,658.00	$ 98,164.00	$ 98,164.00	$ 98,165.00	$ 98,165.00

SECTION E - BUDGET ESTIMATES OF FEDERAL FUNDS NEEDED FOR BALANCE OF THE PROJECT

(a) Grant Program	FUTURE FUNDING PERIODS (YEARS) (b)First	(c) Second	(d) Third	(e) Fourth
16. ARP	$	$	$	$
17.				
18.				
19.				
20. TOTAL (sum of lines 16 - 19)	$	$	$	$

SECTION F - OTHER BUDGET INFORMATION

21. Direct Charges:

22. Indirect Charges:

23. Remarks:

Project Narrative File(s)

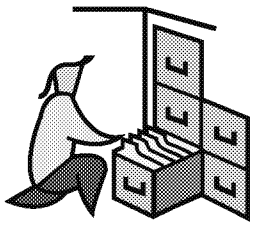
*** Mandatory Project Narrative File Filename:** 1240-Phila AMS_EPA grant application_3-15-2022.pdf

Add Mandatory Project Narrative File | Delete Mandatory Project Narrative File | View Mandatory Project Narrative File

To add more Project Narrative File attachments, please use the attachment buttons below.

Add Optional Project Narrative File | Delete Optional Project Narrative File | View Optional Project Narrative File

Where to go to review applications



Copies of applications are available at:

321 University Avenue
Philadelphia, PA 19104

Contact the office at:
215-685-9493 for more information and for hours of availability.

AMS will also make major permit applications and a plain language summary available for review at your local library branch.

PHILADELPHIA DEPT. OF PUBLIC HEALTH
AIR MANAGEMENT SERVICES

Please visit the Health Department at:
www.phila.gov/health/html

If you have questions, or if you wish to report air pollution violations, please contact :

215-685-7580

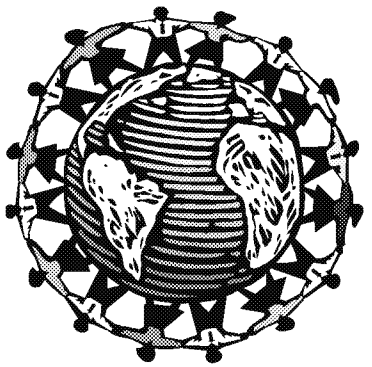
Resources for More Information:

PA Dept. of Environmental Protection
610-832-6000
www.dep.state.pa.us

U.S. Environmental Protection Agency,
Region III 215-814-5000
www.epa.gov

Note: Philadelphia AMS is currently in the process of creating an enhanced EJ policy

Environmental Justice



SEAL OF THE CITY OF PHILADELPHIA

ED_013931A_00000027-00001

Have you ever wondered if your opinion counts, when a factory or other facility goes up in your neighborhood? Have you ever wondered about the health effects it might have on you and your children? Do you want to know how to get information on the process and become an active participant?

Air Management Services is interested in what your community has to say about the permits that are being issued for facilities in your neighborhood.

What is Air Management Services (AMS)?

AMS is the City department within the Philadelphia Department of Public Health that is responsible for monitoring and regulating the air quality in the city of Philadelphia. Our areas of responsibility include monitoring air pollution, responding to complaints, and issuing installation permits for sources of pollution and operating permits.

What is environmental justice?

The Philadelphia Department of Public Health has adopted the Department of Environmental Protection's guidelines and definition for environmental justice. Environmental justice is defined as the fair treatment and meaningful involvement of all people with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including a racial, ethnic, or socioeconomic group, bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, and local programs and policies.

What requires a permit?

Any new facility, or equipment added to an existing facility that will emit air pollution must have a permit.

Steps AMS takes in reviewing a permit

1. Seeks information from other permit agencies
2. Evaluates the facility for compliance with pollution control technology and applicable regulations
3. Estimates actual and potential emissions
4. Evaluates existing permit restrictions
5. Drafts the permit, establishing allowable emissions, operating practices, testing, monitoring, record keeping, and reporting

Steps in public participation for a major source

-A source with the potential to emit a pollutant equal to or greater than an applicable annual emissions rate

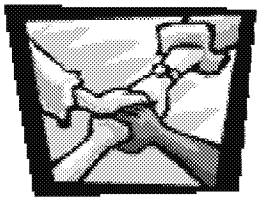
1. AMS sends a copy to federal and state government environmental officials
2. Facility is required to publish a public notice of AMS' intent to approve permit in local paper
3. AMS responds to comments from publication
4. A notice is published and a public hearing is held if a hearing is requested
5. Construction permit is issued
6. Interested parties are notified of construction permit
7. Permit issuance date is published

Steps in public participation for a minor source-

A source that does not emit a pollutant equal to or greater than an applicable annual emissions rate

1. AMS responds to public feedback
2. Construction permit is issued
3. Interested parties are notified of construction permit

What AMS is doing to increase public participation?



To fulfill the guidelines for environmental justice, AMS will increase public outreach efforts to affected areas, and provide information to the public about Environmental Justice. AMS will produce a plain language summary of the application that will be posted on the Department of Health's website, and will also be dispersed to local library branches, and other targeted sources within a community.

AMS will also strongly encourage applicants to meet with the community prior to submitting an application. In coordination with the applicant, an informational meeting will be scheduled, with the purpose of providing information about the nature of the project in a timely manner. These meetings will be in addition to any required public meetings and hearings.

The steps in issuing an operating license:

A Major Source:

1. The public is notified through the local paper
2. Operating permit is issued

A Minor Source:

1. After air pollution license is reviewed, it is issued

If the permit is approved, AMS will review the completed project for compliance with air pollution standards.

EPA KEY CONTACTS FORM

OMB Number: 2030-0020
Expiration Date: 06/30/2024

Authorized Representative: *Original awards and amendments will be sent to this individual for review and acceptance, unless otherwise indicated.*

Name: Prefix: | First Name: Cheryl | Middle Name:
Last Name: Bettigole | Suffix: M.D.
Title: Public Health Commissioner

Complete Address:

Street1: 1101 Market Street
Street2: 13th floor
City: Philadelphia | State: PA: Pennsylvania
Zip / Postal Code: 19107 | Country: USA: UNITED STATES
Phone Number: 2672077665 | **Fax Number:** 2156865212
E-mail Address: Health.EPAGrant@phila.gov

Payee: *Individual authorized to accept payments.*

Name: Prefix: | First Name: William | Middle Name:
Last Name: Marks | Suffix:
Title: Acting Health Fiscal Director

Complete Address:

Street1: 1101 Market Street
Street2: 10th floor
City: Philadelphia | State: PA: Pennsylvania
Zip / Postal Code: 19107 | Country: USA: UNITED STATES
Phone Number: 2156855272 | **Fax Number:**
E-mail Address: William.Marks@phila.gov

Administrative Contact: *Individual from Sponsored Programs Office to contact concerning administrative matters (i.e., indirect cost rate computation, rebudgeting requests etc).*

Name: Prefix: | First Name: Lisa | Middle Name:
Last Name: Walker | Suffix:
Title: Administrative Specialist

Complete Address:

Street1: 321 S. University Ave
Street2: 2nd floor
City: Philadelphia | State: PA: Pennsylvania
Zip / Postal Code: 19104 | Country: USA: UNITED STATES
Phone Number: 2156857589 | **Fax Number:** 2156857583
E-mail Address: Health.EPAGrant@phila.gov

EPA KEY CONTACTS FORM

Project Manager: *Individual responsible for the technical completion of the proposed work.*

Name: Prefix: | First Name: Jiazheng | Middle Name:

Last Name: Li | Suffix:

Title: Acting Administrative Engineer

Complete Address:

Street1: 321 S. University Ave

Street2:

City: PHILADELPHIA | State: PA: Pennsylvania

Zip / Postal Code: 19104 | Country: USA: UNITED STATES

Phone Number: 2156859440 | **Fax Number:** 2156857593

E-mail Address: Jiazheng.Li@phila.gov

2022 EPA Enhanced Air Monitoring for Communities
RFA NUMBER: EPA-OAR-OAQPS-22-01
Assistance Listing No: 66.034

I. Cover page

Project Title: Enhanced Air Quality Monitoring in Philadelphia Communities

Organization: Air Management Services (AMS), Department of Public Health, City of Philadelphia

Address: 321 S. University Avenue, 2nd Floor, Philadelphia, PA 19104

Contact: Kassahun Sellassie, Ph.D., PE.

Phone: 215-685-7585; **Fax:** 215-685-7451; **Email:** Kassahun.sellassie@phila.gov

DUNS number: 834466463

Set-Aside: No set-aside

Brief Description of Applicant Organization:

AMS, a unit of the Philadelphia Department of Public Health, is responsible for enforcement of the Philadelphia air management code and regulations. AMS has authority through EPA and Pennsylvania Department of Environmental Protection to enforce federal and state air pollution control regulations. AMS also operates an analytical laboratory and a citywide air monitoring network to monitor Philadelphia's air for comparison with EPA ambient air quality standards.

Project Partners:

Organization(s): Girard Academic Music Program (GAMP School), Philadelphia; Center of Excellence in Environmental Toxicology (CEET) at the University of Pennsylvania

Primary Contact Name: Jovan A. Moore, Principal, GAMP School

Project Location: The project is in Philadelphia, Pennsylvania. Three monitoring sites will be set up in overburdened communities: 1) the Nicetown neighborhood in north Philadelphia (Zip code 19140), 2) the Port Richmond neighborhood, Lower Northeast section of Philadelphia (Zip code 19134), and 3) the neighborhood near the former refinery complex in south Philadelphia (Zip code 19145).

Air Pollutant Scope:

Pollutants measured at site in Zip code 19140: $PM_{2.5}$, NO_2 and Ozone

Pollutants measured at sites in Zip codes 19134 and 19145: $PM_{2.5}$, NO_2, Ozone and VOCs/Air Toxics (including benzene, toluene, ethylbenzene, xylenes, and carbonyls)

Budget Summary:

EPA Funding Requested	Total Project Cost
$ 292,658	**$ 392,658** (including $100,000 AMS matching fund)

Project Period: 11/1/2022 – 10/31/2024 (2 years in total, 1 year of air sampling operation)

Short Project description: The project will deploy continuous air monitors at three sites described above, which are located in Environmental Justice (EJ) areas near major emission sources including the former Philadelphia refinery complex, the Philadelphia International Airport, Kinder Morgan storage tanks, a US Postal processing center, major highways (I-95, I-76, Roosevelt Blvd.), etc. The project will produce results to fill gaps of monitoring data in these areas and help strategizing pollution reductions in overburdened communities.

II. Workplan

Section 1. Project Summary and Approach

Enhancing air monitoring capacity through latest technologies and participation of local communities is one of the objectives of Philadelphia Air Management Services (AMS). This project will help AMS in assessing vulnerabilities of overburdened communities to air hazards by establishing three sites for continuous monitoring of criteria pollutants and VOCs/air toxics. Each of the sites will be located in a Zip code area with overburdened communities. See map in Figure 1.

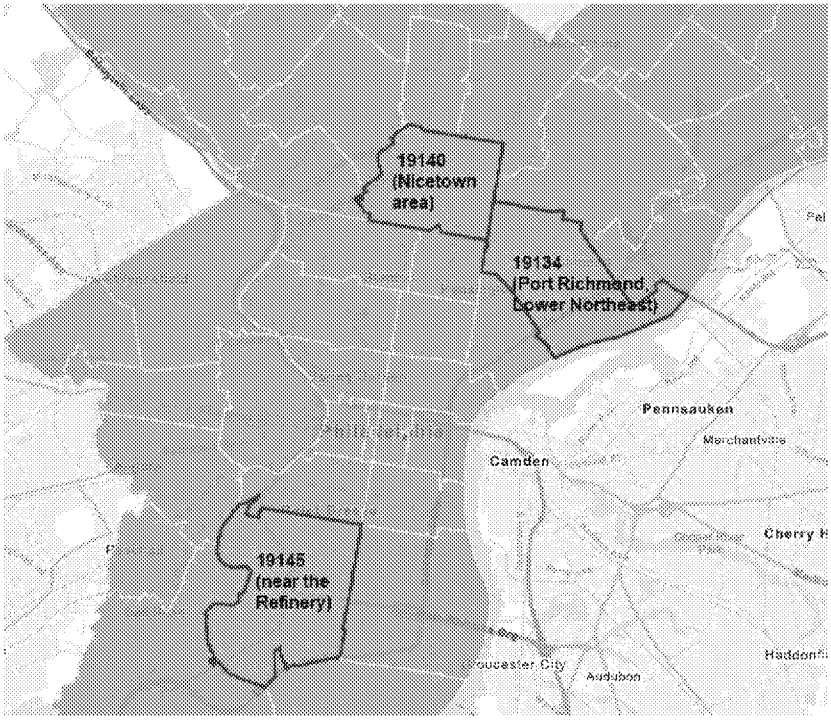


Figure 1. Areas in Philadelphia for Enhanced Air Monitoring

Mechanisms are designed for participation of communities in site selection and data sharing. Continuous or real-time air monitoring equipment will be used to monitor $PM_{2.5}$ and VOCs. Passive samplers will be used to measure NO_2 and Ozone.

Current AMS Operation, Gap in Monitoring, and Proposed Monitoring Sites

AMS has been undertaking projects to monitor the ambient air in Philadelphia, of which over 70% of the population is considered overburdened communities. AMS currently operates an EPA funded air monitoring network of 10 monitoring stations for regulatory purposes, including air toxic measurements at four sites. AMS is also implementing a Community-Scale Air Toxics Monitoring project and a Philadelphia Air Quality Survey project. The air quality in Philadelphia has been improving over the past decades. Nevertheless, air pollution remains a significant public health hazard and cause of illness and death. Overburdened communities demand more and enhanced monitoring in their neighborhoods, preferring using continuous monitors. This project aims to fill the gap in air quality monitoring.

AMS plans to establish three monitoring sites in the above three Zip code areas. A mobile monitoring platform (van) will also be deployed. Table 1 shows the proposed target pollutants and sampling methods.

Table 1. Proposed Air Monitoring Sites and Target Pollutants

Site	Zip code	Proposed Location	Target Pollutants and Sampling Methods
1	19140	Near Wayne Ave. / Bristol Street (Nicetown)	$PM_{2.5}$: Continuous monitor NO_2, O_3: Passive samplers
2	19134	Near Richmond St. / Allegheny Ave. (Port Richmond)	$PM_{2.5}$: Continuous monitor; Mobile Van NO_2, O_3: Passive samplers; Mobile Van VOCs: 1-in-6 day canister sampling in Mobile Van
3	19145	Near S. 24th St. / Ritner St. (near former Philadelphia refinery)	$PM_{2.5}$: Continuous monitor (existing FEM) NO_2, O_3: Passive samplers VOCs/Air Toxics (including benzene, toluene, ethylbenzene, xylenes, and carbonyls): Continuous monitor, may also use 1-in-6 days canister sampling for quality assurance *

*Currently AMS is implementing the Community-Scale Air Toxics Monitoring project (an EPA grant award) at this location to monitor formaldehyde, benzene, carbon tetrachloride, naphthalene, acetaldehyde, and 1,3-butadiene using passive samplers.

Merits of the Proposed Sites

The newly proposed sites are carefully selected to provide better spatial coverage of air monitoring in the city. Community input was taken to address citizens' concerns of insufficient representation of air monitoring in underserved communities. The Nicetown neighborhood (19140) has significant concerns with emissions from nearby industrial facilities and traffic on Roosevelt Boulevard. Port Richmond (19134) is close to Interstate 95 and other industrial facilities. The south Philadelphia location (19145) is near the former Philadelphia refinery complex which is undergoing closing-down, clean-up and redevelopment processes. It is also close to the Philadelphia International Airport and other major sources. See the Environmental Justice section for more description of the areas.

Project Significance and Community exposure assessment

Philadelphia is historically an industrial metropolitan city with many current and closed pollutant emitting industries. The Philadelphia international airport (PHL), the oil refinery complex, petrochemical storages, the Navy Yard, fuel depots and major highways are among the lists. A series of recent incidents raised significant concerns of safety and air pollution in neighboring communities: the fire incident at Philadelphia Metal and Resource Recovery's junkyard (PMRR, Kensington, 19134) on July 10, 2018; the Girard Point refinery facility fire on June 21, 2019 (south Philadelpia); the massive fire incident at a junkyard inside the Delaware Valley Recycling Center (61st Street, southwest Philadelphia) on November 11, 2021, etc. Reclamation activities on these sites will continue for some years. In north Philadelphia, communities in Nicetown are highly concerned with emissions from nearby industrial facilities.

Philadelphia is rated among the top 4 challenging places in the US to live with Asthma[1]. Higher Asthma prevalence among lower income communities living in higher $PM_{2.5}$ concentrations in Philadelphia is reported by recent studies such as Kwasniewska 2021[2]. The effect is more pronounced during the COVID-19 pandemic as people are forced to stay indoor longer than usual while poor indoor air quality also

[1] https://www.aafa.org/media/2426/aafa-2019-asthma-capitals-report.pdf

[2] https://repository.upenn.edu/mes_capstones/91

contributes significantly to respiratory problems in those parts of the city. Further, areas in south Philadelphia have lifetime air toxics total cancer risks over 40 in a million at census tract level[3].

Pollutants including $PM_{2.5}$, NO_2, ozone and certain VOCs/air toxics are identified for assessment in this project based on research data obtained from AMS, University of Pennsylvania, and EPA. According to the 2014 EPA NATA, the top six air toxic compounds that contribute the most cancer risks in Philadelphia are: formaldehyde, benzene, carbon tetrachloride, naphthalene, acetaldehyde, and 1,3-butadiene.

Philadelphia air toxics monitoring data indicated significant peak concentrations on July 13, 2018, which might have been related to the fire incident at PMRR's junk yard. The proposed air monitoring sites for VOCs in south Philadelphia and Port Richmond will help assess communities' vulnerability and address their concerns.

Technical Approach

The overall approach to this project focuses on providing continuous monitoring near emission sources of concerns, in the near overburdened communities. All the three proposed sites and the mobile monitoring van will be equipped with TSI's DustTrak™ 8540 Environmental Monitors for $PM_{2.5}$ measurement. The 8540 DustTrak Environmental Monitor also provides simultaneous measurement of concentrations corresponding to PM_1, $PM_{2.5}$, PM_{10} and total PM size fractions. The instrument is capable of data-logging, with light-scattering laser photometers designed to fit inside the DustTrak Environmental Monitor Enclosure. It is suitable for extreme outdoor settings, as well as harsh industrial, construction, and environmental sites. TSI's DustTrak™ Environmental Monitors are real-time, near reference aerosol instruments, which can be deployed remotely in under an hour.

PID 112 Model will be used to measure VOCs continuously at the site in south Philadelphia (19145) and on the mobile van. Organics (VOCs) and inorganic species that can be ionized by the UV lamp (9.5 or 10.6eV) are measured. There are libraries for the 9.5 and 10.6eV lamps that are easily accessible. There are more than 300 response factors built into the 112 model. Response factors are also built into the FID library. The upper display provides the concentration, and the bottom display provides the lamp eV, FID, units, alarm, and logging mode. 16-bit ADC provides a resolution of 1 part in 64,000 and our signal algorithm minimizes noise by signal averaging in the msec range. The two-point calibration for the PID uses an electronic zero (no zero-gas needed) and a span gas. The time to calibrate is about 10 seconds. The FID requires zero air and span gas for calibration. The single piece construction NEMA 4 enclosures constructed of fiberglass is waterproof, very rugged and durable.

NO_2 and O_3 will be passively monitored at each site and on the van. Ogawa passive sampler will be used to collect O_3 and NO_2 samples every three days. The Ogawa sampler outer assembly is reusable with very low running cost. Control and field samples will be placed near the sampler. Samples will be kept in controlled cool temperatures to minimize temperature effect.

Section 2. Community Involvement

A. Community Partnerships

Over the years AMS has formed partnership with the Girard Academic Music Program (GAMP School) in south Philadelphia. AMS and the school teachers worked together in developing curriculums that were used to teach students about air quality and air pollution control. Outreach to the parents and local communities were achieved through the school and the students. AMS also has a long-time partnership with the Center of Excellence in Environmental Toxicology (CEET) at the University of Pennsylvania. For this project, we are also preparing to partner with the Edward T. Steel Elementary School in the Nicetown

[3] 2014 NATA: https://www.epa.gov/national-air-toxics-assessment/2014-nata-assessment-results

neighborhood where one of the monitoring sites is located. Philadelphia City Council members are very supportive of this project and will involve at different stages of the community engagement process. Eastwick Friends and Neighbors Coalition in south Philadelphia and Clean Air Council (CAC) will also work with AMS in this project.

B. Community engagement

AMS has a long-standing relationship with community groups in south Philadelphia neighborhoods and will work with partners there to disseminate any relevant findings and educate residents about how to reduce human health risks associated with air toxics. AMS will team up with the University of Pennsylvania's researchers/professors and community groups to educate residents and students about air toxics data to increase community members' understanding of their environment in a way that will mitigate negative health outcomes. The GAMP School is in close proximity to the refinery complex in South Philadelphia; they are disproportionately affected by air pollution. In 2013, AMS began collaboration with the University of Pennsylvania's Center of Excellence in Environmental Toxicology (CEET) to address emerging air toxics concerns in South Philadelphia. AMS provided funding to promote curriculum enhancements at GAMP to create an environmental science course that emphasizes air toxics education. AMS will continue to foster the school's air pollution education and attend community outreach events. Using a variety of approaches, including focus groups and meetings with community organizations, we plan to further assess the current levels of competence in environmental health literacy to design programs and strategies that will increase basic comprehension of air quality issues.

AMS will continue to partner with CEET, which has worked with Eastwick residents to investigate environmental health concerns. As AMS' air toxics data becomes available, it is critically important to translate these findings to be more understandable and accessible to the public so that they can comfortably use the information. Closing this gap on information generated by AMS and understanding of risks by target communities that clearly fall under the rubric of Environmental Justice will be a prime focus of our work. We aim for reasonable and practical dialogue between community and governance to address potential elimination or mitigation of air pollutant releases.

The community collaboration will serve three goals:

1. Better understand the community's environmental literacy and collaborate with the communities in air quality monitoring.
2. Increase public awareness about the health effects related to air quality issues
3. Enhance understanding and improve accessibility of the data that will be made available via an open portal.

The grant will help identify the best opportunities, venues and strategies to promote environmental health literacy to enhance social capitol and capacity in bidirectional communication with governance to further safeguard the communities. During the course of this project, AMS will also look to improve measurement techniques and identify any localized air pollution problems.

Section 3. Environmental Justice and Underserved Communities

The population of Philadelphia has large portions of racial and ethnic minorities as well as high percentage of low income households. According to the demographic report (2015-2019 data) generated from the EPA EJSCREEN (v2) Tool, 66% of the city population is identified as People of Color (all groups other than Non-Hispanic White). 30% of households have income no more than $25,000/year. Many reports have named Philadelphia the "poorest large city" in America[4,5].

[4] https://technical.ly/civic-news/poorest-big-city-america-workforce-development/

[5] Economy League: The Changing Distribution of Poverty in Philadelphia

AMS currently has an Environmental Justice policy that emphasizes public outreach and public participation in permitting and air monitoring. See attachment. AMS is in the process of drafting an enhanced EJ policy focusing on more measures of public participation.

The three proposed monitoring sites in this project are located in areas of the city where the communities are overburdened, underserved and have significant concerns with air quality. See map in Figure 1 for the locations of the three Zip codes. These three areas, by Zip code, have high levels of EJ indexes based on the EPA EJSCREEN (v2) Tool. See table below.

Table 2. Summary of Environmental Justice Data from EPA EJSCREEN

Zip Code	Highest EJ Index (USA percentile)	PM2.5 EJ Index (USA percentile)	Ozone EJ Index (USA percentile)	Air Toxics Cancer Risk EJ Index (USA percentile)	Traffic Proximity EJ Index (USA percentile)	% People of Color	% Household Income =< $25,000	% Age 5+ Speaking Non-English at Home	% Age 25+ with Less Than High School
19140	99	87	87	86	95	97	52	34	28
19134	95	84	84	83	77	67	42	38	32
19145	99	71	71	73	89	53	30	22	15

The proposed air monitoring in this grant application will effectively address disproportionate health outcomes from pollution and the COVID–19 pandemic in following ways:

1) The monitoring sites selected are located in neighborhoods where the EJ indexes are disproportionately high (as shown in Table 2) while the existing EPA funded regulatory monitors and other monitoring efforts have not provided the levels of data coverage we would like to have (for example, not enough continuous monitoring, not enough neighborhood-oriented monitoring);

2) Residents in these neighborhoods have expressed strong desire for enhanced air monitoring in the areas due to proximity to industrial and mobile sources, as well as various health issues that are suspected to be linked to emissions from these sources;

3) The data results will help AMS and communities examine the changes in air pollution spatial patterns after the COVID-19 pandemic: before the pandemic, the Philadelphia city center, among all monitoring sites in the city, had the highest $PM_{2.5}$ and NO_2 levels due to heavy and congested vehicle traffic; After the pandemic started in early 2020, the traffic volume decreased in the city center, resulting in lowered $PM_{2.5}$ and NO_2 levels, while certain other parts of the city may not have experienced such decreases - these areas are in close proximity to industrial sources and traffic of heavy duty trucks, and tend to be where low income and minority populations live (associated with high EJ indexes). This project will help us determine, if the changes in pollutant spatial patterns are still holding (although traffic volumes in the city center have increased again after COVID-19 mitigation measures relaxed), how they disproportionately impact communities around the monitoring locations.

Section 4. Environmental Results - Outcomes, Outputs and Performance Measures

A. Expected Project Outputs and Outcomes

Linkage to EPA strategic plan: This project will contribute towards EPA's Strategic Plan Goal 4, "Ensure Clean and Healthy Air for All Communities;" and objective 4.1, "Improve Air Quality and Reduce Localized Pollution and Health Impacts." Philadelphia is known for high income and health disparities with over 70% of the population living in areas with EJ index values over 50 USA percentile. Therefore, addressing concerns of air pollutions by targeting overburdened and most affected areas is a step forward to clean air

for all communities. Continuous real-time air monitoring near major sources and around underserved communities at three different sites is the main output of this project. Furthermore, this project will help AMS operate a mobile system for periodical monitoring of air toxics at different places, near incidents, new construction sites and enable a rapid response to citizen's complaints and concerns with special emphasis given to overburdened communities.

Local environmental partners from overburdened areas will benefit in training and cooperation from this project also. Cooperation includes working together in real-time air monitoring and data reporting, assessing the level of air toxics over time at monitoring sites together, and an analysis of the probable local sources of air pollutions and their impacts on the health of immediate community. A preliminary report and the final report after completion of the air sampling will be produced, and strategies will be devised which includes possible mitigation measures. Therefore, the main short-term and long-term benefit of this project includes minimizing localized air pollutions and their impacts on local communities, thereby addressing EPA strategic plan objective 4.1. The following tables show the main list of expected output and outcomes.

Table 3. Expected output and outcomes of the project

Expected output:

Short term	Long term
• Facilitate cooperation and information flow between communities, between local environmental groups and AMS • Establish a work schedule and line of communication between AMS and environmental groups • Establish three stationary sites, plus a mobile monitoring platform, for $PM_{2.5}$, NO_2, O_3 and VOCs in overburdened community areas • Addressing issues of inclusiveness and equality in air monitoring coverage.	• Prepare assessment of overburdened communities' vulnerability to air pollutants • Documentations and procedures for continuous and real-time air monitoring capabilities • Reduced vulnerabilities of local communities to air pollutants • Capacity building for AMS in human capital and equipment pertaining to air quality monitoring

Expected outcomes:

Short term	Long term
• Inclusion and better service to underserved communities • Improve understanding of which air pollutants are prevalent in overburdened areas. • Air toxics cancer risk assessment of overburdened communities will be prepared during the project time • Prepare recommendations or conduct interventions to reduce air pollution exposure in the local community.	• Establish trust and cooperation between AMS, local communities and environmental groups in EJ areas • Better understanding on citywide spatial and seasonal changes and patterns of pollutant concentrations • Minimize air pollutants' disproportionate effect on overburdened and low-income communities • Assist in devising long term strategy in reducing air pollution in the city • Assist new policy making efforts by providing timely and quality data to policy makers

B. Performance Measures and Plan

Performance of the project undertakings will be assessed every three months by internal meetings and progress reports will be prepared and forwarded to EPA. The reports will contain assessments on the short-term goals and progresses towards the final objectives. Every report will have three parts. The first part of the report assesses progresses achieved in equipment and materials procurement including expenditure, the second part will discuss activities related to air monitor planning including sampling and sample analysis. The third part of the report assess activities with environmental group partners and community

representatives in EJ areas. The training, task assignments and performance of the cooperation will be evaluated every three months and included in the final project.

C. Timeline and Milestones

The first step of the project is preparing bidding documents for purchase of main equipment, communication materials and supplies. The procurement process should be completed in the first half of 2023. Equipment testing and training will take place along with site preparation, installation, and field testing. Communications with partners and community representative and necessary training and communication sessions will start in early stage of the project. Sampling operation will start in mid-2023. The project will complete with the final report by October 2024. See Table 4.

Table 4. Project Timeline and Milestones (2 years in total, 1 year of air sampling operation)

Activity	Nov-Dec 2022	Jan-Mar 2023	Apr-Jun 2023	Jul-Sept 2023	Oct-Dec 2023	Jan-Mar 2024	Apr-Jun 2024	Jul-Oct 2024
Equipment purchase and testing, training	❖	❖	❖					
Site preparation, installation & field testing		❖	❖					
EJ and Partnerships	❖	❖	❖	❖	❖	❖	❖	❖
Sampling intensives		(may start in Q2 pending equipment purchase)		❖	❖	❖	❖	
Data analysis / assessment					❖	❖	❖	❖
Preliminary report						❖		
Final report								❖

Section 5: Quality Assurance Statement

As specified in the RFA instructions, the Quality Assurance Statement is submitted as an attachment.

Section 6. Programmatic Capability and Past Performance

AMS, a unit of the Philadelphia Department of Public Health, is responsible for enforcement of the Philadelphia Air Management Code, the Regulations of the Air Pollution Control Board, the Noise and Excessive Vibration Code, and Regulations of the Board of Health. AMS also has authority through EPA and Pennsylvania DEP to enforce federal and state regulations controlling air pollution.

In addition to providing engineering, enforcement, and laboratory services, AMS also operates a citywide air sampling network to monitor Philadelphia's air for comparison with EPA air quality standards. The agency currently maintains 10 EPA funded air monitoring stations across the city, responds to citizen complaints about air pollution, noise and odors, and handles permitting and inspection of industrial, commercial, and residential facilities where pollution may arise. Since the City of Philadelphia first established air pollution control measures in 1948, there has been significant progress toward improving the quality of air in the City. Our staff members possess extensive technical expertise in fields related to air quality tracking, analysis, and modeling.

A. Past Performance

Grants received by AMS from EPA successfully generated significant benefits in the past. Outcomes include increased compliance with air quality regulations and public health benefits. AMS's past performance is described below.

In Calendar Year 2020, 2426 air inspections were conducted and 336 air violation were issued. 12 violation notices were issued to Title V facilities. 201 noise inspections were conducted and 92 violations issued. 1321 asbestos inspection also resulted in 33 asbestos violations. 701 citizen complaints were serviced.

In Calendar Year 2019, 423,426 air samples were taken; violation notices were issued to 6 Title V facilities; 2,399 air inspections and 2,965 asbestos inspections were conducted; and 797 citizen complaints were serviced. Performance of recent projects is summarized below.

Project 1. 2020 Community-Scale Air Toxics Ambient Monitoring

Nov 1, 2020 - Dec 31, 2022

Funding Agency: EPA; CDFA number: 66.034

Laboratory equipment and supply procurement completed amid the COVID challenge. Installation is completed, and calibration and training are ongoing. Sample collection has started for some parts of the project. Semi-Annual report is being submitted to EPA as per grant commitment.

Project 2. Air Pollution Control Program

Received by AMS - Most recent: Oct. 1, 2016 – Sept. 30, 2021

Funding Agency: EPA, Agreement #A00304517-0

Reporting frequency: Various reports are sent on a monthly, quarterly, and semiannual basis

CDFA number: 66.001 (Section 105 of the Clean Air Act)

AMS receives Air Pollution Control Program funding to support several major goals: Achieving attainment and maintenance with National Ambient Air Quality Standards (NAAQS) for five criteria pollutants, meeting visibility goals, reducing or eliminating risks to human health from toxic air contaminants, and mitigating the effects of air pollution on the environment, particularly to the City's land, buildings and waterways which can be damaged by acid rain. AMS activities funded by this grant include monitoring, data analysis, attainment plan development, and other functions that address multiple pollutant, cross-media, interstate, trans-boundary as well as traditional local air quality concerns.

AMS currently tracks five criteria pollutants as well as over 50 air toxics. Reports are submitted that track the city's outreach and inter-agency collaboration, progress on regulatory and attainment-related measures such as the State Implementation Plan revision. Air monitoring and analysis activities are also supported by this grant, and data and planning documents are submitted to EPA and PADEP periodically. AMS reports to EPA's central databases on permitting, compliance and enforcement activities for emissions sources as well as air monitoring within the City of Philadelphia. All reports for this Section 105 grant have been submitted in a timely fashion and AMS is meeting guidelines established by EPA for carrying out grant functions.

Project 3. National Air Toxics Trend Site Grant (NATTS)

Received by AMS: 2016-2019 (Most recent Jul. 1, 2016 – Jun. 30, 2019)

Funding Agency: EPA, Agreement #XA-973330-04-02

Reporting frequency: Quarterly

CDFA number: 66.034 (Section 103 of the Clean Air Act)

The NATTS laboratory network is a system designed to help EPA track and evaluate trends in high-risk air contaminants, particularly six priority pollutants: formaldehyde, arsenic, hexavalent chromium, benzene, 1,3 butadiene, and acrolein. Light absorbing carbon is also tracked at these sites. Air Management Services supports the network by conducting laboratory analysis that assists in examining health effects on the public. NATTS is funded under Section 103 of the Clean Air Act. AMS is up to date in its submission of reports related to the NATTS grant.

Project 4. PM2.5 Ambient Air Monitoring Program

Received by AMS: 2016-2019 (Most recent Apr. 1, 2016 – March 31, 2019)

Funding Agency: EPA, Agreement #PM-97311804-02

Reporting frequency: Data is updated periodically, and email confirmations are sent to EPA central database system accordingly.

CDFA number: 66.034 (Section 103 of the Clean Air Act)

The $PM_{2.5}$ Ambient Air Monitoring Program is intended to track the region's progress toward achieving attainment with Clean Air Act standards for fine particulates. NAAQ Standards for $PM_{2.5}$ were enacted in 1997 to help reduce human exposure to fine particulates, which can be inhaled deep into the lungs and can exacerbate health problems such as asthma. Funds have been used to upgrade and maintain the City's monitoring system for particulate matter. Notably, the grant has helped to purchase continuous monitors and to replace noncontinuous ones. AMS submits data generated by this monitoring system periodically and is up to date on all submissions. The $PM_{2.5}$ Ambient Air Monitoring Program falls under Section 103 of the Clean Air Act. AMS is up to date in its submission of reports related to the $PM_{2.5}$ grant.

Project 5. Philadelphia Air Quality Survey (PAQS, since May 2018)

AMS Received funding via the Pennsylvania Department of Environmental Protection (PA DEP) as a sub-fund of EPA funding

50 air monitoring sites were established. Seasonal and spatial distribution of pollutant concentrations have been studied. The project is ongoing and partial fund from EPA was used. Quality Assurance Project Plan (QAPP) has been submitted to EPA. Quarterly reports were submitted to PA DEP.

B. Reporting Requirements

As part of AMS Section 103 and 105 commitments, AMS submits required reports to EPA based on reporting schedules set by EPA, including emission inventory reports, diesel retrofit project reports, energy reports, quarterly monitoring data submissions, etc. AMS performance in reporting is also described above with the listed projects. AMS is currently in good standing with all grant commitments, including those to EPA.

C. Staff Expertise/Qualifications

AMS has established a research team with staff members with excellent educational background and years of technical and research experience in running air monitoring laboratories and facilities. Our air monitoring lab has successfully run many projects including installing and maintaining sophisticated real-time and continuous air monitoring equipment.

AMS director Kassahun Sellasie (PhD, PE) will oversee overall project activities to make sure all compliances, project milestones, budget goals, personnel allocation, report and documentations, and cooperation with local partners are achieved. Dr. Sellassie has successfully run many projects related to air pollution and published more than five peer reviewed articles during his M.Sc. and Ph.D. works and professional career at AMS. Dr. Sellasie's habitual activities include frequent communications with environmental activist groups such as Green Justice Philly and other community members regarding Philadelphia's air quality.

Jiazheng Li (PhD) will coordinate project activities such as data analysis, tracking progress and preparation of reports. Menelik Negash (PhD) will assist in report writing, project coordination with lab, local partners and EJ groups. AMS Lab Acting Administrative Engineer Paresh Mehta will oversee the installation and maintenance of lab equipment and sample collection activities. Meyliana Wu will be responsible for maintaining quality control and quality assurance practices. AMS Lab is also staffed with Administrative Scientist Maisha Wheeler, engineering and chemistry supervisors, engineers, analytical chemists, and lab and field technicians.

Section 7. Budget

A. Budget Detail

The budget detail, for the two-year period of the project, is summarized in Table 5. The major components of the budget include salaries, fringe, equipment, services, etc. Personnel costs, including salaries, fringe and travel, amounts to **$182,002** for the 2-year period. Equipment purchases cost a total of **$58,000.** Services/contractual costs related to equipment and sample analysis will be **$ $56,250.** Also, **$12,000** in indirect costs has been included, which is 9 % of the personnel salary cost.

The total cost of the project is estimated to be **$392,658**. AMS will have a matching fund of **$100,000** from the Philadelphia Department of Public Health budget. AMS is applying for EPA funding of **$292,658** for this project.

Table 5: Budget Detail

Category	Initial Year	2nd year	Total
Salaries	$ 64,509	$ 66,604	$ 131,112
Fringe	$ 25,444	$ 25,444	$ 50,889
Travel	$ 4,703	$ 4,703	$ 9,405
Equipment	$ 58,000		$ 58,000
Supplies	$ 10,000	$ 10,000	$ 20,000
Services/Contractual	$ 28,125	$ 28,125	$ 56,250
Initial site setup	$ 25,000		$ 25,000
Other (modem, data Acquisition system, wires etc.)	$ 30,000		$ 30,000
Indirect Cost	$ 6,000	$6,000	$ 12,000
Total	**$ 251,781**	**$ 140,877**	**$ 392,658**
PERSONNEL			
Position/Title	**% Time**	**Annual Salary ($)**	**Annual Salary Cost to Project ($)**
AMS Program Director	1.5	$ 137,651	$ 2,065
AMS Program Manager	2.5	$ 122,661	$ 3,067
Administrative Scientist	2.5	$ 115,434	$ 2,886
Administrative Engineer	2.5	$ 115,434	$ 2,886
Administrative Engineer	2.5	$115,434	$ 2,886
Eng Supervisor - Field	5.0	$ 94,445	$ 4,722
Eng Supervisor - QA	5.0	$ 94,445	$ 4,722
Eng Supervisor - PS	5.0	$ 94,445	$ 4,722
QA Engineer	5.0	$ 61,335	$ 3,067
PS Engineer	5.0	$ 59,839	$ 2,992
Elec Tech II	15.0	$ 59,870	$ 8,980
Elec Tech I	5.0	$ 45,954	$ 2,298
Science Technician	5.0	$ 50,866	$ 2,543
Mass Spectro.	10.0	$70,369	$ 7,037
Chem Supervisor	5.0	$ 83,952	$ 4,198
Chem II	5.0	$ 68,590	$ 3,430
Administrative Specialist - Supervisory	2.5	$ 80,323	$ 2,008
Total / year			**$ 65,557**
ADJ. for HOLIDAYS, O.T., PAY DIFFERENTIAL			
FRINGE / year			**$ 25,444**
Total Annual Personnel / year			**$ 91,001**
Total Personnel for 2-Year Period			**$ 182,002**

TRAVEL			
Transportation to the sites @57 cents per miles and approximately 8250 miles / year			
Total Travel for 2-Year Grant Period	**$ 4,703**	**$ 4,703**	**$ 9,406**
EQUIPMENT			
TSI DustTrak model 8540 (Three units)	$ 26,000		$ 26,000
PID 112 model (Two Units)	$ 16,000		$ 16,000
Enclosure	$ 16,000		$ 16,000
Total Equipment			$ 58,000
SUPPLIES			
Calibration Gases	$ 2,500	$2,500	$ 5,000
Batteries	$ 2,500	$2,500	$ 5,000
Calibration Gases for Van	$ 5,000	$5,000	$ 10,000
Total Supplies			$ 20,000
SERVICES/CONTRACTUAL			
parts and maintenance contract	$ 25,000	$25,000	$ 50,000
Training	$ 5,000	$1,250	$ 6,250
Total Services/Contractual			$ 56,250
OTHER			
Initial site setup & preparation	$ 25,000		$ 25,000
Other (modems, Data Acquisition system, wires etc.)	$ 30,000		$ 30,000
Total Other			$ 55,000
INDIRECT COST: 9% of Personnel salary cost			**$ 12,000**
GRAND TOTAL			**$ 392,658**

B. Reasonableness of costs

Above 50% of the budget goes to equipment, site preparation, and laboratory supplies. Preparation of new sites requires new utility lines and real-time communication capacities. In addition to the $100, 000 AMS matching fund, it is very likely that additional staff time and resources beyond those set out in the project budget will be required to complete the project. Partner resources will also support this grant, including staff time of community groups to connect AMS with residents. University of Pennsylvania will provide support to this project by coordinating the community, conducting meetings with community and officials about the project and contributing their expertise in monitoring, data analysis and community engagement. AMS believes this budget is well planned and highly reasonable.

C. Expenditure of Awarded Grant Funds

Based on AMS's years of handling of many federal, state, and city awards, grant funds will be expended in a timely and efficient manner. This project will be carried out effectively and completed within timeframe and budget. It will mobilize the participation of affected communities and other organizations and professionals. We have identified EJ communities and built relationships with these neighborhoods and many environmental groups such as Green Justice Philly. AMS will use a project planning and tracking tool that describes who will do what and when. We have bi-weekly meetings to evaluate and measure the level to which the program is achieving the expected outcomes; and will document the program activities unfolded according to plans, as well as any course corrections needed with follow-ups and updates. The finance officer and the project assistant coordinator will provide monthly reports to the project coordinator about the cost, progress, and timeline demonstrating whether it follows the project plan.

Quality Assurance Statement

1. Project organization

Pennsylvania Department of Environmental Protection (PADEP) is the administrator of the grant. PADEP will work closely with Delaware County to deploy and maintain low-cost air monitoring sensors in and around Environmental Justice areas along the waterfront in Delaware County. PADEP and Delaware County will also deploy the low-cost monitors in areas outside of Environmental Justice areas and upwind of industrial sources to monitor air quality. Dr. Peter DeCarlo from Johns Hopkins University currently has an ongoing project in the area with these sensors, two of which are collocated with PADEP's FEM $PM_{2.5}$ monitors. Dr. DeCarlo has extensive knowledge and experience monitoring air quality throughout the region. PADEP will develop a full quality assurance project plan for EPA approval if a grant is awarded. Table 1 shows the responsibilities of each position.

Table [SEQ Table * ARABIC] - Positions and Responsibilities

Name	Position	Affiliation	Responsibility
Nick Lazor	Air Quality Monitoring Program Manager	PADEP	Project Management
Dr. Peter DeCarlo	Associate Professor, Dept of Environmental Health and Engineering	Johns Hopkins University	Oversee data analysis
TBD*	Air quality research scientist	John Hopkins University	Perform data analysis
Anne Stauffer	Senior Planner	Delaware County	Community involvement Equipment placement Final report
Sean Nolan	QA Section Chief	PADEP	QA data
Ellen Davies	Project coordinator	PADEP	Review data Monitor grant and submissions to EPA Final report review

*The specified personnel for this position will be determined when grant is awarded.

2. Data quality objectives

The data quality objective for this project is to operate the PM sensors in accordance with manufacturer instructions, follow consistent procedures and perform routine quality checks (the DQI) to assess data quality.

3. Data quality indicators

Data quality indicators are used to assess the quality of the data. Table 2 outlines the DQIs. More detail will be provided in a QAPP should the grant be awarded.

Table [SEQ Table * ARABIC] - DQI

DQI	Definition	Methodology
Precision	The measure of agreement among repeated measurements of the sample property under identical, or substantially similar conditions	Prior to deployment sensors will be run in pairs and groups to determine data comparability across the range of sensors and gauge the measure of precision.
Bias	The systematic or persistent distortion of a measurement process that causes errors in one direction	Data will be compared with FEM/FRM data throughout the project.
Accuracy	A measure of the overall agreement of a measurement to a known value; includes a combination of random error and systematic error and components of both sampling and analytical operations	Data will be compared with FEM/FRM data at PADEP monitoring sites in the area. Manufacturer accuracy reports will also be used.
Representativeness	A qualitative term that expresses "the degree to which data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point, a process condition, or an environmental condition.	Sensors will be deployed in EJ areas in southern Delaware County, including the Cities of Chester and Marcus Hook.
Comparability	A qualitative term that expresses the measure of confidence that one data set can be compared to another and can be combined for the decision to be made.	Sensors will be checked for comparability prior to deployment and throughout the project.
Completeness	A measure of the amount of valid data needed to be obtained from a measurement system.	Data completeness will be determined prior to the start of the project.
Sensitivity	The capability of a method or instrument to discriminate between measurement responses representing different levels of the variable of interest.	Manufacturer range, accuracy: PM2.5.: 0 to 2,000 µg/m3

AGENCY: **ENVIRONMENTAL PROTECTION AGENCY (EPA)**

TITLE: **Enhanced Air Quality Monitoring for Communities**

ACTION: **Request for Applications (RFA)**

RFA NUMBER: **EPA-OAR-OAQPS-22-01**

Assistance Listing No: **66.034**

IMPORTANT DATES

December 13, 2021	RFA OPENS
January 11, 2022	INFORMATION SESSION
February 25, 2022	OPTIONAL INTENT TO APPLY
March 18, 2022	LAST DAY TO SUBMIT QUESTIONS
March 25, 2022	RFA CLOSES – APPLICATIONS DUE
August-September 2022	ANTICIPATED NOTIFICATION OF SELECTION
October-November 2022	ANTICIPATED AWARD

Application packages must be submitted electronically to EPA through Grants.gov (www.grants.gov) no later than **March 25, 2022, at 11:59 p.m. (ET)** in order to be considered for funding.

To allow for efficient management of the competitive process, EPA requests submittal of an informal notice of an Intent to Apply by February 25, 2022 to AirMonitoring@epa.gov. Please include your approximate funding amount, set-aside preference (if applicable), and one to two sentences about the scope of your project. Submission of an Intent to Apply is optional; it is a process management tool that will allow EPA to better anticipate the total staff time required for efficient review, evaluation, and selection of submitted applications. Potential applicants do not need to re-submit their notice of intent to apply if they submitted one prior to the earlier deadline.

COVID-19 UPDATE

EPA is providing flexibilities to applicants experiencing challenges related to COVID-19. Please see the Flexibilities Available to Organizations Impacted by COVID-19 clause in Section IV of EPA's Solicitation Clauses.

SUMMARY: Pursuant to the American Rescue Plan Act of 2021 (ARP), this notice announces the availability of funds and solicits applications from eligible entities to conduct ambient air monitoring of pollutants of greatest concern in communities with environmental and health outcome disparities stemming from pollution and the COVID-19 pandemic. EPA will award funds to support community and local efforts to monitor their own air quality and to promote air quality monitoring partnerships between communities and tribal, state, and local governments.

FUNDING/AWARDS: The total estimated funding for this competitive opportunity is approximately **$20,000,000**. Approximately $2 million dollars of this amount will be awarded to tribal governments under a tribal government set-aside, and approximately $2 million will be

awarded to eligible community-based organizations under a community-based organization set-aside.

Overall, EPA anticipates awarding a total of approximately 50-70 assistance agreements (cooperative agreements or grants) from this announcement, subject to availability of funds, the quality of applications received, agency priorities, and other applicable considerations. EPA anticipates awarding approximately 20-30 assistance agreements ranging in value from $25,000 to $100,000 (*i.e.*, "Small Grants") and 30-40 assistance agreements ranging in value from $100,001-$500,000 (*i.e.,* "Large Grants"). EPA may increase or decrease the total funding or set-aside amounts based on the number of meritorious applications received, agency priorities, funding availability, and other applicable considerations.

NOTE: If you intend to name a contractor (including an individual consultant or equipment vendor) or a subrecipient as a project partner or otherwise in your application, EPA recommends that you carefully review, and comply with, the directions contained in the "Contracts and Subawards" clause that can be accessed under Section I.F. of this RFA. and at www.epa.gov/grants/epa-solicitation-clauses. Refer to EPA's Best Practice Guide for Procuring Services, Supplies, and Equipment Under EPA Assistance Agreements and EPA's Subaward Policy and supplemental Frequent Questions for additional guidance. Applicants must demonstrate that named contractors (including individual consultants and equipment vendors) were selected in compliance with the competitive requirements of the Procurement Standards in 2 CFR Part 200 as interpreted in EPA guidance and/or that named subrecipients meet the eligibility requirements in EPA's Subaward Policy for EPA to consider their qualifications and role in the proposed project.

INFORMATION SESSION: EPA will host a webinar to discuss this RFA. Participants will have the opportunity to have their questions answered by EPA in a public forum. Pre-registration is not required.

> **Date:** Tuesday, January 11, 2022
> **Time:** 1:00 PM – 2:00 PM EST
> **More Information:** https://www.epa.gov/grants/enhanced-air-quality-monitoring-communities

Approximately one week after the information session, EPA will post the webinar recording and slides on https://www.epa.gov/grants/enhanced-air-quality-monitoring-communities.

QUESTIONS AND ANSWERS: Applicants are encouraged to review the questions and answers document for further information about this grant program and RFA, available at https://www.epa.gov/grants/enhanced-air-quality-monitoring-communities. EPA will respond to questions from applicants regarding:

- Threshold eligibility criteria;
- Administrative issues related to the submission of the application;
- Requests for clarification about any of the language or provisions in the announcement; and,
- Compliance with regulatory requirements and EPA guidance for competition for

procurement of professional services and equipment purchases and entering into proper subawards.

Please note that EPA will **not** respond to questions from applicants seeking help in drafting applications. Questions must be submitted via email to AirMonitoring@epa.gov before **March 18, 2022**. EPA will answer relevant questions and post them in the Question/Answer document **the following week**, while the RFA is open, at: https://www.epa.gov/grants/enhanced-air-quality-monitoring-communities. All applicants are encouraged to check the document regularly. EPA will post the final questions and answers document no later than March 22, 2022.

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I. FUNDING OPPORTUNITY DESCRIPTION

A. Background

Under the American Rescue Plan Act of 2021 (ARP), Congress provided EPA with a one-time supplemental appropriation of $100 million to address health outcome disparities from pollution and the COVID-19 pandemic. EPA will make a portion of these funds available to enhance air quality monitoring in and near underserved communities across the United States. EPA is competing $20 million of these funds for projects to monitor air pollutants of greatest concern in communities with adverse health outcome disparities through the process outlined in this solicitation. EPA will award funds to eligible entities to support community and local efforts to monitor their own air quality and to promote air quality monitoring partnerships between communities and tribal, state, and local governments.

B. Scope of Work

The scope of work described in this section applies to all the funding available under this competition.

EPA is soliciting applications from eligible entities, as described in Section III.A., for projects designed to monitor air pollutants of greatest concern in communities with disproportionate and adverse health outcomes. EPA's objective in issuing these awards is to enable communities to monitor their own air quality and to promote monitoring partnerships between communities and tribal, state, and/or local governments that:

- Leverage existing air quality monitoring expertise;
- Expand use of community monitoring advisory groups and other approaches that give the community a voice in the monitoring of their air quality; and
- Build a foundation of trusting relationships and enhanced understanding from which sustainable solutions to community air pollution problems can be found.

Applications should include detailed, well thought-out projects for enhancing air quality monitoring, including but not limited to: building capacity and knowledge of local-scale, real-time air quality; measuring levels of certain air pollutants; collecting data in situations where there is persistent and complex air pollution (*e.g.*, wildfires); or advancing air monitoring system resiliency.

This is a one-time infusion of funds, so projects must be completed within three years without the expectation of additional resources and/or funds to maintain and operate equipment beyond this timeframe.

Pollutant Scope

To be considered for funding under this RFA, each application must address at least one of the following:

- Carbon Monoxide
- Lead
- Nitrogen Dioxide

- Ozone, including ozone precursors
    - Precursors for ozone collected in the Photochemical Assessment Monitoring Stations (PAMS) Program including oxides of nitrogen, (NO, NO_2, NO_x, NO_y) volatile organic compounds (VOCs), and carbonyls. A list of ozone precursors can be found in the Technical Assistance Document for Sampling and Analysis of Ozone Precursors for the Photochemical Assessment Monitoring Stations Program, Revision 2 – April 2019. This is available at: https://www.epa.gov/sites/default/files/2019-11/documents/pams_technical_assistance_document_revision_2_april_2019.pdf
    - Additional ozone precursors such as methane.
- Sulfur Dioxide
- Particle Pollution (ultrafine, $PM_{2.5}$, or PM_{10}), including aerosol composition and PM precursors
    - Aerosol composition is determined by the Chemical Speciation Network (CSN). A full list of the CSN reported parameters is available at: https://www.epa.gov/amtic/chemical-speciation-network-parameters-reported-air-quality-system-aqs.
    - PM precursors including ammonia, sulfur dioxide (SO_2), oxides of nitrogen, CO, and VOCs.
- Hazardous Air Pollutants (HAPs), commonly referred to as air toxics. A full list of HAPs is available at: https://www.epa.gov/haps/initial-list-hazardous-air-pollutants-modifications#mods.

Proposed projects cannot include activities that address pollutants that are not listed above.

Air Monitoring Technology

To provide timely air quality information in communities, applicants should use commercially available technology and/or proven methods to monitor these air pollutants. For example, projects must utilize commercially available air quality monitoring equipment (*e.g.*, a continuous $PM_{2.5}$ monitor), EPA procedures (*e.g.*, EPA's Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air), and/or other air quality methods that have been previously researched and documented in literature. EPA will not fund projects that involve the research, development, demonstration or evaluation of new air monitoring methods or equipment under this RFA.

Community Partnerships and Engagement

EPA encourages eligible entities as identified in Section III.A. of this RFA to partner with local communities to monitor air pollutants of greatest concern in communities with disproportionate and adverse health outcomes. EPA will evaluate how community partners and supporting organizations will participate in or directly assist in the design and performance of the project, or how obtaining support from project partners will allow the applicant to more effectively perform the project under criterion 2 of Section V.A. of this RFA. Community engagement and partnership efforts may engage various organizations representing a broad spectrum of the community; examples include grassroots, neighborhood, school, faith-based, city council, business, local government, and other organizations. Applications that demonstrate recent involvement of project partners and community members working together on past projects may be evaluated more favorably than others. Applicants are encouraged to include letters of

commitment that demonstrate strong, long-term involvement throughout the proposed project from a variety of project partners. While EPA is encouraging partnerships, only eligible entities as described in Section III.A. of this RFA can directly apply for an assistance agreement under this competition. Additionally, as indicated earlier, financial transactions with partners that will be financed with EPA funding must comply with applicable regulatory requirements and EPA policies and guidance. Any partners named in the application are subject to the "Contracts and Subawards" clause that can be accessed under Section IV.d. of the additional EPA Solicitation Clauses: www.epa.gov/grants/epa-solicitation-clauses.

Projects must address engagement with relevant communities to ensure their meaningful participation with respect to the design, planning, and performance of the proposed project. All selected projects must disseminate collected data and/or other observations to interested stakeholders in a practicable amount of time throughout the lifetime of the project. EPA will evaluate community engagement under criterion 2.B. of Section V.A. of this RFA.

Environmental Justice and Underserved Communities

Environmental justice (EJ) is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations and policies. Fair treatment means no group of people should bear a disproportionate share of the negative environmental consequences resulting from industrial, governmental and commercial operations or policies. Meaningful involvement means people have an opportunity to participate in decisions about activities that may affect their environment and/or health; the public's contribution can influence the regulatory agency's decision; community concerns will be considered in the decision-making process; and decision makers will seek out and facilitate the involvement of those potentially affected. EPA will evaluate environmental justice issues under criterion 3 of Section V.A. of this RFA.

For purposes of this competition and the evaluation of applications, "underserved communities" means people/communities of color, low income, tribal and indigenous populations, and other vulnerable populations such as the elderly, children, and those whose pre-existing medical conditions make them vulnerable to the adverse effects of air pollution.

Applications will be evaluated based on the extent to which they demonstrate how the project will effectively address disproportionate health outcomes from pollution and the COVID–19 pandemic that have affected and/or currently affect people/communities of color, low income, tribal, and indigenous populations, and if applicable other vulnerable populations such as the elderly, children, and those with pre-existing medical conditions. Adverse impacts may be the result of the COVID-19 pandemic, industrial, governmental, commercial and/or other actions and include the accompanying economic challenges of such impacts.

In addressing these criteria, as applicable, applicants should describe how the project benefits these communities and/or populations including those that have experienced a lack of resources or other impediments to addressing the adverse impacts described above. Additionally, applicants should describe the extent to which the project addresses engagement with these

communities and/or populations to ensure their meaningful participation with respect to the design, planning, and performance of the project.

NOTE: Disproportionate health outcomes from pollution and the COVID–19 pandemic, as well the accompanying economic challenges of such impacts, may result when greater pollution burdens or consequences, and the impact of them, are more likely to affect people/communities of color, low income, tribal and indigenous populations and vulnerable populations including those identified above. The impacts may result from various factors including but not limited to being a function of historical trends and policy decisions.

Factors that may indicate disproportionate and adverse impacts as referenced above include:

- Differential proximity and exposure to environmental hazards;
- Greater susceptibility to adverse effects from environmental hazards (due to genetic predisposition, age, chronic medical conditions, lack of health care access, the COVID-19 pandemic, or poor nutrition);
- Unique environmental exposures because of practices linked to cultural background or socioeconomic status (e.g., subsistence fishing or farming);
- Cumulative effects from multiple stressors;
- Reduced ability to effectively participate in decision-making processes due to language barriers, inability to access traditional communication channels, or limited capacity to access technical and legal resources; and
- Degraded physical infrastructure, such as poor housing, poorly maintained public buildings (e.g., schools), or lack of access to transportation.

Applicants are encouraged, as appropriate, to include data from EPA's EJSCREEN tool (or other EJ-focused geospatial mapping tools) as **part** of their application to help characterize and describe the affected communities/populations and area(s). Data from other sources (*e.g.*, studies, census, and third-party reports) should also be included to give a more complete picture of the impacted communities and populations. Instructions, resources, and tutorials on how to use EJSCREEN are included at the hyperlink above.

Quality Assurance & Quality Control

Quality Assurance (QA) is a series of management activities, including planning, implementation, and assessment, necessary to ensure the quality and defensibility of the final product (e.g., air monitoring data). Quality Control (QC) is the system of technical activities conducted to measure the attributes and performance of a process against defined standards. QC provides a reasonable level of checking (verification) at various stages of the data collection process to ensure quality is maintained. Examples of QC activities include calibrations and precision checks. Each application must describe the approaches needed to successfully complete the research project and obtain documented quality data. Additionally, the applicant must also identify and document the activities that will ensure that the product is of adequate quality to be used as planned. EPA will evaluate the applicant's quality assurance and quality control practices under criterion 5 of Section V.A. of this RFA.

Number of Applications

Applicants can submit a total of two (2) applications overall under this solicitation. If an applicant is submitting two (2) applications, each application must be for a different project and must be submitted separately. Applicants can target multiple air pollutants and/or air monitoring methods within one application, but they cannot include the same project(s) in multiple applications. If an applicant submits more than two applications to EPA, or more than one application requests funding for the same project, the applicant will be contacted prior to EPA review of any of the applications to determine which application(s) the applicant will withdraw from the competition.

C. EPA Strategic Plan Linkage, Anticipated Outputs/Outcomes and Performance Measures

Pursuant to Section 6.a. of EPA Order 5700.7A1, "Environmental Results under EPA Assistance Agreements," EPA must link proposed assistance agreements with the Agency's Strategic Plan. EPA also requires that grant applicants and recipients adequately describe environmental outputs and outcomes to be achieved under assistance agreements (see EPA Order 5700.7A1, Environmental Results under Assistance Agreements).

1. **Linkage to EPA Strategic Plan:** The activities to be funded under this announcement support EPA's Draft Fiscal Year (FY) 2022-2026 Strategic Plan. Awards made under this announcement will support Goal 4, "Ensure Clean and Healthy Air for All Communities;" Objective 4.1, "Improve Air Quality and Reduce Localized Pollution and Health Impacts." Under this objective, "EPA will work with air agencies and local communities to prioritize engagement with low-income and marginalized communities that for decades have been overburdened with air pollution and other environmental hazards." Applications must be for projects that support this goal and objective. For more information see: EPA's Draft FY 2022-2026 Strategic Plan.

   EPA also requires that grant applicants adequately describe environmental outputs and outcomes to be achieved under assistance agreements (see EPA Order 5700.7A1, Environmental Results under Assistance Agreements). Applicants must include specific statements describing the environmental results of the proposed project in terms of well-defined outputs and, to the maximum extent practicable, well-defined outcomes that will demonstrate how the project will contribute to the priorities described above.

2. **Outputs:** The term "output" means an environmental activity, effort, and/or associated work product related to an environmental goal and objective that will be produced or provided over a period of time or by a specified date. Outputs may be quantitative or qualitative but must be measurable during an assistance agreement funding period.

   Expected outputs from the projects to be funded under this announcement may include, but are not limited to:
   - Identification of air pollution;
   - Community-specific assessments of air pollution data;

- Deployment of equipment to conduct air quality monitoring in or near underserved communities;
- Near real-time air quality data availability for communities and other stakeholders; and,
- Promotion of partnerships and community involvement through various activities and information exchanges.

Progress reports and a final report will also be required outputs, as specified in Section VI.C. "Reporting Requirement," of this RFA.

3. **Outcomes:** The term "outcome" means the result, effect or consequence that will occur from carrying out an environmental program or activity that is related to an environmental or programmatic goal or objective. Outcomes may be environmental, behavioral, health-related or programmatic in nature, but must also be quantitative. They may not necessarily be achievable within an assistance agreement funding period.

   In and near areas with disproportionate environmental and human health impacts to underserved communities, expected outcomes from the projects to be funded under this announcement may include, but are not limited to:
   - Short-term Outcomes (*i.e.*, a change in knowledge)
     - Problem identification.
     - Increased community awareness.
     - Increased access to information and tools that increase understanding and reduction of environmental and human health risks.
   - Intermediate Outcomes (*i.e.*, a change in behavior)
     - State or local policy action(s).
     - Mitigation action(s) from parties responsible for certain air pollution.
     - Community action to mitigate certain air pollutant(s).
   - Long-term Outcomes (*i.e.*, a change in conditions)
     - Reduction of certain air pollutant emissions.
     - Reduction of ambient concentrations of certain air pollutant(s).
     - Reduction of human exposure to certain air pollutant(s).

4. **Performance Measures.** The applicant should also develop performance measures they expect to achieve through the proposed activities and describe them in their application. These performance measures will help gather insights and will be the mechanism to track progress concerning successful processes and output and outcome strategies and will provide the basis for developing lessons to inform future recipients. Additional details on reporting requirements are included in Section VI.C. It is expected that the description of performance measures will directly relate to the project outcomes and outputs. The description of the performance measures will directly relate to the project's outcomes and outputs, including but not limited to:
   - Overseeing subrecipients, and/or contractors and vendors;
   - Tracking and reporting project progress on expenditures and purchases; and
   - Tracking, measuring, and reporting accomplishments and proposed timelines/milestones.

The following are questions to consider when developing output and outcome measures of quantitative and qualitative results:

- What are the measurable short term and longer term results the project will achieve?
- How will progress toward achieving the expected results be measured (including outputs and outcomes) and how will the approach use resources effectively and efficiently?

D. Statutory Authority

The American Rescue Plan Act of 2021 (P.L. 117-2) provided funding to EPA to address health outcome disparities from pollution and the COVID-19 pandemic. Specifically, ARP §6002(a)(2) provides funding for grants and activities authorized under subsections (a) through (c) of section 103 of the Clean Air Act.

The statutory authority for this action is Clean Air Act, §103(b)(3), which authorizes the award of grants for research, investigations, experiments, demonstrations, surveys, and studies related to the causes, effects, (including health and welfare effects), extent, prevention, and control of air pollution. Projects designed to monitor air pollutants of greatest concern in communities with disproportionate and adverse health outcomes is consistent with this authority.

F. Additional Provisions For Applicants Incorporated Into The Solicitation

Additional provisions that apply to sections III, IV, V, and VI of this solicitation and/or awards made under this solicitation, can be found at EPA Solicitation Clauses. These provisions are important for applying to this solicitation and applicants must review them when preparing applications for this solicitation. If you are unable to access these provisions electronically at the website above, please contact the EPA point of contact listed in this solicitation (usually in Section VII) to obtain the provisions.

II. AWARD INFORMATION

A. What is the amount of funding available?

The total estimated funding for this competitive opportunity is approximately $20,000,000. Approximately $2 million dollars of this amount will be awarded to tribal governments under a tribal government set-aside under which only applications from tribal governments will be considered, and approximately $2 million will be awarded to community-based organizations under a community-based organization set-aside under which only applications from community-based organizations will be considered. Applications for each set-aside will be reviewed separately and separate ranking lists prepared (see Section V.B. of this competition for more information). The anticipated award amounts and the relative allocations for the set-asides are approximations, and EPA may increase or decrease the amounts and number of projects selected under each set-aside based on the number of meritorious applications received, agency priorities, funding availability, and other applicable considerations.

B. Partial Funding

In appropriate circumstances, EPA reserves the right to partially fund applications by funding discrete portions of proposed projects. If EPA decides to partially fund an application, it will do so in a manner that does not prejudice any applicants or affect the basis upon which the application was evaluated and selected for award, thereby maintaining the integrity of the competition and selection process.

C. How many agreements will EPA award in this competition?

EPA anticipates awarding a total of approximately 50 to 70 grants or cooperative agreements under this announcement, subject to the availability of funds, the quantity and quality of applications received, and other applicable considerations. EPA anticipates awarding approximately 20-30 assistance agreements ranging in value from $25,000 to $100,000 (*i.e.*, "Small Grants") and 30-40 assistance agreements ranging in value from $100,001-$500,000 (*i.e.*, "Large Grants"). EPA may increase or decrease the number of small or large grants based on the number of meritorious applications received, agency priorities, funding availability, and other applicable considerations.

If EPA selects multiple applications from an applicant, EPA may combine the selected applications into one grant award for the successful applicant (See Section VI.A. Combining of Successful Applications into One Award).

EPA reserves the right to make additional awards under this announcement, consistent with Agency policy and other applicable considerations, if additional funding becomes available after the original selections. Any additional selections for awards will be made no later than six months from the date of the original selections.

In addition, EPA reserves the right to reject all applications and make no awards under this announcement or to make fewer awards than anticipated.

D. What is the project period for awards resulting from this solicitation?

The estimated project period for awards resulting from this solicitation is expected to begin by November 2022. Proposed project periods may be up to three years from the project start date. Because this is one-time funding, projects must be completed within three years and/or address how equipment will be maintained and operated beyond this timeframe without the expectation of additional resources. EPA will only consider extending project periods due to extraordinary circumstances that an applicant could not foresee when the application was submitted.

E. Funding Type

The funding for selected projects will be in the form of a grant or cooperative agreement.

Cooperative agreements provide for substantial involvement between the EPA project officer and the selected applicants in the performance of the work supported. Although EPA will

negotiate precise terms and conditions relating to substantial involvement as part of the award process, the anticipated substantial federal involvement for these projects may include:

- Close monitoring of the successful applicant's performance to verify the results proposed by the applicant;
- Collaboration during performance of the scope of work;
- EPA prior review or approval of project phases or the substantive provisions of proposed contracts or subawards found within the scope of the cooperative agreement;
- EPA approval of a quality assurance project plan prior to issuing an award that involves environmental data collection, production, or use.
- Approving qualifications of key personnel (EPA will not select employees or contractors employed by the award recipient); and
- Review and comment on reports prepared under the cooperative agreement (the final decision on the content of reports rests with the recipient).

Awards may be fully or incrementally funded, as appropriate, based on funding availability, satisfactory performance, and other applicable considerations.

III. ELIGIBILITY INFORMATION

Note: Additional provisions that apply to this section can be found at EPA Solicitation Clauses.

A. Eligible Entities

In accordance with Assistance Listing 66.034, applications will be accepted from states (including the District of Columbia); local governments; U.S. territories and possessions; Indian tribes; public and private hospitals and laboratories; and other public or private nonprofit organizations.

Nonprofit organization, as defined by 2 CFR 200.1, means any corporation, trust, association, cooperative or other organization that: (1) is operated primarily for scientific, educational, service, charitable or similar purposes in the public interest; (2) is not organized primarily for profit; and (3) uses its net proceeds to maintain, improve and/or expand its operations. The term includes tax-exempt nonprofit neighborhood and labor organizations. Note that the definition of nonprofit in 2 CFR Part 200.1 specifically excludes the following types of organizations from the definition of "nonprofit organization" because they are separately defined in the regulation: (i) institutions of higher education; and (ii) state, local and federally-recognized Indian tribal governments. Institutions of Higher Education are not eligible to submit applications under this RFA. Hospitals operated by state, tribal, or local governments or that meet the definition of nonprofit at 2 CFR 200.1 are eligible to apply. Nonprofit organizations do not need be tax exempt under the Internal Revenue Code but may use documentation of tax-exempt status to demonstrate that it is a nonprofit. EPA will verify applicants' non-profit status on SAM.gov. For-profit colleges, universities, trade schools, and hospitals are ineligible.

For-profit organizations are not an eligible entity for this funding opportunity. Additionally, nonprofit organizations described in Section 501(c)(4) of the Internal Revenue Code that engage in lobbying activities as defined in Section 3 of the Lobbying Disclosure Act of 1995 are not

eligible to apply.

To be eligible for the tribal set-aside, the applicant must meet the definition of Indian tribe under Section 302(r) of the Clean Air Act: "The term 'Indian tribe' means any Indian tribe, band, nation, or other organized group or community, including Alaska Native village, which is Federally recognized as eligible for the special programs and services provided by the United States to Indians because of their status as Indians."

To be eligible for the community-based organization set-aside, the applicant must be an eligible nonprofit or not for profit corporation in good standing under state or tribal law with authority to enter into binding legal agreements. The community-based organization need not be tax exempt under the Internal Revenue Code but may use documentation of tax-exempt status to demonstrate that it is a nonprofit. Entities applying for the community-based set-aside must specify the community they represent and provide documentation, such as their charter, mission statement, or other official documentation of the organization; and include a statement demonstrating the effectiveness as a representative of the applicable community (See Section III.C.6).

B. Voluntary Cost Sharing/Matching Funds and Leveraged Resources

No cost sharing/matching funds or leveraged resources are required as a condition of eligibility under this competition.

C. Threshold Eligibility Criteria

These are requirements that if not met by the time of application submission, will result in elimination of the application from consideration for funding. Only applications from eligible applicants (see Section III.A. of this RFA) that meet all of these criteria will be evaluated against the ranking criteria in Section V. of this RFA. If necessary, EPA may contact applicants to clarify threshold eligibility questions prior to making an eligibility determination. Applicants deemed ineligible for funding consideration due to the threshold eligibility review will be notified within 15 calendar days of the ineligibility determination.

1. Application Content and Submission

a. Applications must substantially comply with the application submission instructions and application content requirements set forth in Section IV. and Appendices A and B or else they will be rejected.

b. Applications must be submitted through Grants.gov as stated in Section IV.A. of this announcement (except in the limited circumstances where another mode of submission is specifically allowed for as explained in Section IV.) on or before the application submission deadline published in Section IV.D. of this announcement. Applicants are responsible for following the submission instructions in Section IV. of this announcement to ensure that their application is timely and properly submitted.

Applications submitted after the submission deadline will be considered late and deemed ineligible without further consideration unless the applicant can clearly demonstrate that it was late due to EPA mishandling or because of technical problems associated with Grants.gov or relevant SAM.gov system issues. An applicant's failure to timely submit their application through Grants.gov because they did not timely or properly register in SAM.gov or Grants.gov will not be considered an acceptable reason to consider a late submission. **EPA suggests registering in Grants.gov and SAM.gov as early as possible.** Additional information about SAM.gov registration is available in the EPA Solicitation Clauses under Section IV.f., System for Award Management (SAM) Unique Identifier Requirements.

2. Applications must support Goal 4 "Ensure Clean and Healthy Air for All Communities;" Objective 4.1: "Improve Air Quality and Reduce Localized Pollution and Health Impacts" of EPA's Draft FY 2022-2026 Strategic Plan described in Section I.C.1.

3. Applications which request EPA funds in excess of $500,000 or less than $25,000, as specified in Section II.A of this RFA, are not eligible for funding under this RFA and will not be reviewed.

4. Applications must include a statement on quality assurance, as specified in Section IV.C.3 of this RFA.

5. Applications must specify whether or not they are applying for a set-aside and specify which set-aside. Applications that fail to identify a desired set-aside will be evaluated as though they selected the "no set-aside" option (i.e., they will be evaluated in the general pool of applications).

6. If applying for the community-based organization set-aside, applicants must explain how their organization meets the definition of "community-based organization." A "community-based organization" generally means a non-governmental organization that has demonstrated effectiveness as a representative of a community* or a significant segment of a community as defined in its charter, mission statement, or other official document and that helps members of that community or segment obtain environmental, health, educational, or other social services. Such organizations may include, for example, those representing communities with environmental justice concerns including health outcome disparities stemming from air pollution and the COVID-19 pandemic. Local chapters of a national organization that can meet this definition can apply for the community-based organization set-aside. To be considered for the community-based organization set-aside, the applicant must:
   a. Provide documentation that it is a nonprofit or not for profit corporation under federal, state, or tribal law with authority to enter into binding legal agreements.
   b. Specify the community they represent and provide documentation, such as their charter, mission statement, or other official documentation of the organization.

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* As defined in the Office of Management and Budget's M-21-08, "community" means: either a group of individuals living in geographic proximity to one another, or a geographically dispersed set of individuals (such as migrant workers or Native Americans), where either type of group experiences common conditions

c. Include a statement demonstrating the effectiveness as a representative of the applicable community.

Please note that this information will be evaluated under evaluation criterion 2.C. under Section V.A. of this RFA.

7. If applying for the tribal set-aside, applicants must meet the definition of Indian tribe under Section 302(r) of the Clean Air Act: "The term 'Indian tribe' means any Indian tribe, band, nation, or other organized group or community, including Alaska Native village, which is Federally recognized as eligible for the special programs and services provided by the United States to Indians because of their status as Indians

8. Applications must address disproportionate and adverse environmental or human health impacts to underserved communities.

9. Applications must address one or more of the following air pollutants from Section I.B.:
   - Carbon Monoxide
   - Lead
   - Nitrogen Dioxide
   - Ozone, including ozone precursors
     - Precursors for ozone collected in the Photochemical Assessment Monitoring Stations (PAMS) Program including oxides of nitrogen, (NO, NO_2, NO_x, NO_y) volatile organic compounds (VOCs), and carbonyls. A list of ozone precursors can be found in the Technical Assistance Document for Sampling and Analysis of Ozone Precursors for the Photochemical Assessment Monitoring Stations Program, Revision 2 – April 2019. This is available at: https://www.epa.gov/sites/default/files/2019-11/documents/pams_technical_assistance_document_revision_2_april_2019.pdf
     - Additional ozone precursors such as methane.
   - Sulfur Dioxide
   - Particle Pollution (ultrafine, $PM_{2.5}$, or PM_{10}), including aerosol composition and PM precursors
     - Aerosol composition is determined by the Chemical Speciation Network (CSN). A full list of the CSN reported parameters is available at: https://www.epa.gov/amtic/chemical-speciation-network-parameters-reported-air-quality-system-aqs.
     - PM precursors including ammonia, sulfur dioxide (SO_2), oxides of nitrogen, CO, and VOCs.
   - Hazardous Air Pollutants (HAPs), commonly referred to as air toxics. A full list of HAPs is available at: https://www.epa.gov/haps/initial-list-hazardous-air-pollutants-modifications#mods.

D. Ineligible Costs or Activities and Other Considerations

Any of the following may lead to a portion or all of the application not being reviewed:

1. **Ineligible Costs or Activities.** If an application is submitted that has ineligible items, tasks, or activities, that portion of the application will not be reviewed and will be ineligible for funding and may, depending on the extent to which it affects the application, render the entire application ineligible for funding. The following activities are not eligible for funding under this RFA:

    a. Air monitoring activities, equipment, and/or methods that are not previously existing, commercially available technologies as specified in Section I.B. of this RFA.

    b. Activities that address pollutants not identified in Section I.B.

    c. Costs that are included as a cost or used to meet cost sharing or matching requirements of any other federally financed grant, as required under 2 CFR 200.306(b)(5) and 200.403(f).

2. **Other Considerations:**
    a. Where a page limit is expressed in Section IV.C. with respect to the project narrative, pages in excess of the page limitation will not be reviewed. The page limit of the project narrative is 12 pages.

    b. Applicants can submit no more than two applications, as specified in Section I.B of this RFA. If an applicant submits more than two applications, EPA will contact the applicant to determine which application(s) to withdraw.

    c. If an applicant is submitting two applications, each application must include a different project(s) and must be submitted separately. Applicants can include multiple types of projects within one application, but they cannot include the same project(s) in multiple applications. If an applicant submits more than one application that requests funding for the same project, the applicant will be contacted prior to EPA review of any of the applications to determine which application(s) the applicant will withdraw from the competition.

IV. APPLICATION AND SUBMISSION INFORMATION

Note: Additional provisions that apply to this section can be found at EPA Solicitation Clauses.

A. Requirement to Submit Through Grants.gov and Limited Exception Procedures

Applicants, except as noted below, must apply electronically through Grants.gov under this funding opportunity based on the Grants.gov instructions in this announcement. If your organization has no access to the internet or access is very limited, you may request an exception for the remainder of this calendar year by following the procedures outlined here. Please note that your request must be received at least 15 calendar days before the application due date to allow enough time to negotiate alternative submission methods. Issues with submissions with

respect to this opportunity only are addressed in section Appendix A. under *Technical Issues with Submission*.

B. Grants.gov Application Submission Instructions (see Appendix A)

Your organization's authorized official representative (AOR) must submit your complete application electronically to EPA through Grants.gov no later than **March 25, 2022, 11:59 PM Eastern Time**.

See Appendix A for full Grants.gov submission instructions.

C. Content of Application Submission

Applicants should review Appendix B for specific instructions for the project narrative. Applicants should note which materials are required for the application package.

1. **Grant Application Forms**. Please complete the forms as appropriate.

   a. Standard Form 424, *Application for Federal Assistance* (**Required**). Please note that the organizational Dun and Bradstreet (D&B) Data Universal Number System (DUNS) number must be included on the SF-424. Organizations may obtain a DUNS number at no cost by calling the toll-free DUNS number request line at 1-866-705-5711.
   b. Standard Form 424A, *Budget Information for Non-Construction Programs* (**Required**)
   c. EPA Form 4700-4, *Pre-Award Compliance Review Report for All Applicants Requesting Federal Financial Assistance* (**Required**)
   d. EPA Form 5700-54, *Key Contacts Form* (**Required**)
   e. Project Narrative Attachment Form (**Required**, see Section IV.C.2. below for additional information)
   f. Attachments using the Other Attachments Form (See Section IV.C.3.–6. below for additional information)

2. **Project Narrative Attachment Form – see Appendix B (Required**; part of the 12-page limit). Applicants may use the Project Narrative Attachment form in Grants.gov. The project narrative must explicitly describe how the proposed project meets the threshold eligibility criteria in Section III.C., and address the evaluation criteria set forth in Section V.A. The project narrative cannot exceed a maximum of (12) single-spaced typewritten pages, including the summary page, workplan, and budget table and detail. Pages in excess of the 12-page limit will not be reviewed. Additionally, the project narrative should be in a legible font (e.g., size 12 Times New Roman font, size 11 Calibri font, etc); smaller font sizes may be used for tables and figures. Supporting materials identified below can be submitted as attachments and are not included in the 12-page limit. The project narrative must substantially comply with the specific instructions, format and content as defined in Appendix B.

3. **Attachments**. Applicants should note which attachments are required. These attachments are not included in the 12-page limit. Use the "Other Attachments Form" for each.

   - **Quality Assurance Statement (Required)**. Applicants may use the Other Attachment Form in Grants.gov. A brief description of the quality assurance and quality control practices that will be applied during a project to assure that the results obtained satisfy the project objectives. The quality assurance statement should not exceed 2 pages in length.
   - **Proof of Nonprofit Status (Required for nonprofits only)**. Applicant organizations claiming nonprofit status must include documentation that shows the organization is either a 501(c) (3) non-profit organization as designated by the Internal Revenue Service; OR a nonprofit organization recognized by the state, territory, commonwealth or tribe in which it is located. Documentation must be on official government letterhead. These are not subject to the page limit.
   - **Community-based Organization Documentation (Required for applicants applying for community-based organization set-aside only)**. This is only required for applicants applying for the community-based organization set-aside to demonstrate the community the organization represents. This documentation can include the organization's charter, mission statement or other official document that describes the community that the organization represents.
   - **Partnership Letter(s)-** If applicable, letters that demonstrate strong involvement throughout the project from a variety of project partners are encouraged. Letters should be addressed to the applicant organization. Please do not ask partners to submit letters directly to EPA. Note also the requirements described earlier on naming partners that will be parties to EPA funded financial transactions.
   - **Resumes of the Project Manager and Other Key Personnel-** Applicants can attach a resume or curricula vitae (CV) for the project manager and other key personnel. These are not subject to the workplan page limit although individual resumes should not exceed 2 pages in length. EPA funded transactions with Key Personnel who are not employees of the applicant are subject to the requirements described earlier on naming partners.

D. Submission Date and Times

The closing date and time for submission of applications is **March 25, 2022, 11:59 p.m., Eastern Time (ET)**. Applications submitted after the closing date and time will not be considered for funding.

V. APPLICATION REVIEW INFORMATION

Note: Additional provisions that apply to this section can be found at EPA Solicitation Clauses.

Only eligible entities whose applications meet the threshold criteria in Section III.C. of this RFA will be evaluated according to the criteria set forth below. **Applicants should explicitly address these criteria as part of their application package submittal in the project narrative,**

following the content requirements set forth in Appendix B. Each application will be rated using a point system. Applications not submitted under the community-based organization set-aside will be evaluated based on a total of 125 points possible; applications submitted under the community-based organization set-aside will be evaluated based on a total of 135 points possible.

A. Evaluation Criteria

Criteria	Points
Total Possible Points	**125**†
1. Project Summary and Approach: Under this criterion, EPA will evaluate applications based on the extent and quality of the applicant's project summary and overall approach. Specifically, EPA will evaluate the extent and quality of: **A. (20 points) Overall Project:** The overall proposed project consistent with the Scope of Work (Section I.B.), and the steps the applicant will take to meet the program objectives and execute the project. **B. (10 points) Project Significance:** How the proposed project will support or benefit the public and the environment, and the relationship of the proposed project to the seriousness, extent, and urgency of the environmental or public health problems toward which the project is directed.	**30**
2. Community Involvement: Under this criterion, EPA will evaluate: **A. (15 Points) Community Partnerships:** How community partners and supporting organizations will participate in, directly assist in the design and performance of the project, and/or allow the applicant to more effectively perform the project. Any partners named in the application are subject to the "Contracts and Subawards" clause that can be accessed under Section IV.d. of the additional EPA Solicitation Clauses: www.epa.gov/grants/epa-solicitation-clauses. **B. (10 points) Community Engagement:** The extent to which the project addresses engagement with these communities and/or populations (see A above) to ensure their meaningful participation with respect to the design, planning, and performance of the project. Note for sub-criteria A. and B.: Applications that demonstrate recent involvement of project partners and community members working together on past projects may be evaluated more favorably than others. Applications with letters of commitment that demonstrate strong involvement throughout the proposed project from a variety of project partners may also be evaluated more favorably than others. All applicants who do not propose to use community partners will be evaluated based on how well they can	**25**‡

† The total points for the community-based organization set-aside is 135 points.

‡ The total points for the Community Involvement criterion is 35 points for the community-based organization set-aside for a total of 135 points rather than 125 points.

demonstrate that they can effectively perform the proposed project without partners. If the applicant does not have any community partnerships, please indicate this in the application and explain why. <u>The following sub-criterion applies only to applications submitted under the community-based organization set-aside:</u> **C. (10 Points) Communality-Based Organization Set-Aside:** The extent to which an application establishes that the applicant is an effective "community-based organization" as defined in Section III.C. of this announcement, including their effectiveness as a representative of a community or a significant segment of a community and how the organization helps members of that community or segment obtain environmental, health, educational, or other social services.	
3. <u>Environmental Justice and Underserved Communities:</u> Under this criterion, EPA will evaluate applications based on the quality and extent to which the project benefits people/communities of color, low income, tribal, and indigenous populations (and if applicable other vulnerable populations such as the elderly, children, and those with pre-existing medical conditions) that have been and/or are currently affected by disproportionate health outcomes from pollution and the COVID–19 pandemic, including these communities and/or populations that have experienced a lack of resources or other impediments to addressing these adverse impacts. Adverse impacts may be the result of the COVID-19 pandemic, industrial, governmental, commercial and/or other actions and include the accompanying economic challenges of such impacts.	**10**
4. <u>Environmental Results – Outputs, Outcomes and Performance Measures:</u> Under this criterion, EPA will evaluate: **A. (10 points) Expected Project Outputs and Outcomes-** The extent and quality to which the applicant identifies and proposes outputs and outcomes, as described in Section I.C.2. and 3. **B. (5 points) Performance Measures and Plan-** The effectiveness of the applicant's plan for tracking and measuring its progress toward achieving the expected project outputs and outcomes, including those identified in Section I.C. of this announcement. **C. (5 points) Timeline and Milestones-** The reasonableness of the proposed timeline including key milestones for specific tasks and the likelihood of completion of the project's goals and objectives by project end.	**20**
5. <u>Quality Assurance Statement:</u> Under this criterion, EPA will evaluate the quality assurance and quality control practices that will be applied during the project to ensure that the results obtained satisfy the project objectives.	**5**
6. <u>Programmatic Capability and Past Performance:</u> Under this criterion, EPA will evaluate applicants based on their ability to successfully complete and manage the proposed project considering their:	**15**

A. (5 points) Past Performance- Past performance in successfully completing and managing the assistance agreements identified in response to Appendix B, Section 5 of the solicitation. **B. (5 points) Reporting Requirements-** History of meeting the reporting requirements under the assistance agreements identified in response to Appendix B, Section 5 of the solicitation, including whether the applicant submitted acceptable final technical reports under those agreements and the extent to which the applicant adequately and timely reported on their progress towards achieving the expected outputs and outcomes under those agreements and if such progress was not being made whether the applicant adequately reported why not; **C. (5 points) Staff Expertise-** Staff expertise and qualifications, staff knowledge, and resources or the ability to obtain them, to successfully achieve the goals of the proposed project. Note: Partnership letters related to community involvement will be evaluated under Criterion 2 of the Evaluation Criteria. Applicants should discuss their partnerships related to community involvement in more detail under Section 2 of their workplan. Note: In evaluating applicants under items A. and B. of this criterion, EPA will consider the information provided by the applicant and may also consider relevant information from other sources including agency files and prior/current grantors (e.g., to verify and/or supplement the information supplied by the applicant). If the applicant does not have any relevant or available past performance or reporting information, please indicate this in the application and you will receive a neutral score for sub-criteria A. and B. (a neutral score is half of the total points available in a subset of possible points). If the applicant does not provide any response for these items, they may receive a score of 0 for these sub-criteria.	
7. <u>Budget</u>: Under this criterion, EPA will evaluate applicants based on the extent and quality to which: **A. (5 points) Budget Detail-** The proposed budget provides a detailed breakout by funding type in the proper budget category for each activity the applicant is requesting funding. **B. (10 points) Reasonableness of Costs-** Costs are reasonable to accomplish the proposed goals, objectives, and measurable environmental outcomes; and **C. (5 points) Expenditure of Awarded Funds-** Their approach, procedures, and controls ensure that awarded grant funds will be expended in a timely and efficient manner.	**20**

* Applications submitted under the community-based organization set-aside will be evaluated based on a total of 135 points possible.

** Applications submitted under the community-based organization set-aside will be evaluated on the Community Involvement criteria 2.a., 2.b., and 2.c., for a total of 35 points possible

for the criterion and 135 points total. Applications that are not submitted under the community-based organization set-aside will be evaluated on the Community Involvement criteria 2.a. and 2.b., for a total of 25 points possible for the criterion and 125 points total.

B. Review and Selection Process

Applications will first be evaluated against the threshold factors listed in Section III.C. of this RFA. Only those applications which meet all of the threshold factors will be evaluated using the evaluation criteria listed above by an EPA evaluation team.

Each application will be given a numerical score and will be rank-ordered by the review panel within their applicable set-aside or the general pool of applications. Applications applying for the community-based organization set-aside will be evaluated and scored out of 135 possible points while all others will be evaluated and scored out of 125 possible points, as described in the evaluation criteria under Section V.A. Preliminary funding recommendations will be provided to the EPA selection official based on these reviews and rankings. Final funding decisions will be made by the EPA headquarters selection official based on the rankings and preliminary recommendations of the EPA evaluation team and the other factors listed in Section V.C. below.

C. Other Factors

Final funding decisions will be made by the selection official based on the rankings and preliminary recommendations of the EPA evaluation team. In making the final funding decisions, the selection official may also consider other programmatic priorities, the geographic diversity of funds, the mix of small and large grants as described in Section II.C., and the availability of funds. Once final decisions have been made, a funding recommendation will be developed and forwarded to the EPA Award Official.

VI. AWARD ADMINISTRATION INFORMATION

Note: Additional provisions that apply to this section can be found at EPA Solicitation Clauses.

A. Award Notices

Following evaluation of applications, all applicants will be notified regarding their status.

1. **Successful Applicants:** EPA anticipates notification to successful applicants will be made via electronic or postal mail by September 2022. The notification will be sent to the original signer of the application or the project contact listed in the application. This notification, which informs the applicant that its application has been selected and is being recommended for award is not an authorization to begin work. The official notification of an award will be made by EPA's Grants and Interagency Agreements Management Division.

   Applicants are cautioned that only a grants officer is authorized to bind the government to the expenditure of funds; selection does not guarantee an award will be made. For example, statutory authorization, funding or other issues discovered during the award process may

affect the ability of EPA to make an award to the applicant. The award notice, signed by the EPA grants officer, is the authorizing document and will be provided through electronic or postal mail. The successful applicant may need to prepare and submit additional documents and forms (e.g. work plan), which must be approved by EPA, before the grant can officially be awarded. The time between notification of selection and award of a grant can take up to 90 days or longer.

Combining Successful Applications into One Award
If an applicant submits multiple applications under this competition, and multiple applications are selected for funding, EPA may award a single assistance agreement that combines separate applications for different tasks/activities.

2. **Unsuccessful Applicants**: EPA anticipates notification to unsuccessful applicant(s) will be made via electronic or postal mail by September 2022. The notification will be sent to the original signer of the SF-424, Application for Federal Assistance.

B. Administrative and National Policy Requirements

A listing and description of general EPA Regulations applicable to the award of assistance agreements may be viewed at: www.epa.gov/grants/policy-regulations-and-guidance-epa-grants.

C. Reporting Requirement

Quarterly progress reports and a detailed final report will be required. Quarterly reports summarizing technical progress, planned activities for the next quarter and a summary of expenditures are required. The final report shall be submitted to EPA within 120 calendar days of the completion of the period of performance. The final report must include: summary of the project or activity, advances achieved and costs of the project or activity. In addition, the final report shall discuss the problems, successes, and lessons learned from the project or activity that could help overcome structural, organizational or technical obstacles to implementing a similar project elsewhere. The schedule for submission of quarterly reports will be established by EPA, after the grants are awarded. Award recipients may be provided with additional information and guidance on reporting performance measures and project progress after award.

D. Disputes

Assistance agreement competition-related disputes will be resolved in accordance with the dispute resolution procedures published in 70 FR (Federal Register) 3629, 3630 (January 26, 2005) which can be found at Grant Competition Dispute Resolution Procedures. Copies of these procedures may also be requested by contacting the person listed in Section VII. of the announcement. Note that the Federal Register notice references regulations at 40 CFR Parts 30 and 31 that have been superseded by regulations in 2 CFR parts 200 and 1500. Notwithstanding the regulatory changes, the procedures for competition-related disputes remains unchanged from the procedures described at 70 FR 3629, 3630, as indicated in 2 CFR Part 1500, Subpart E.

VII. AGENCY CONTACTS

For further information, contact Tim Roberts in EPA's Office of Air and Radiation at AirMonitoring@epa.gov. All questions or comments must be communicated in writing.

All applicants are encouraged to review the questions and answer document posted at http://www.epa.gov/grants/air-grants-and-funding for further clarification of this RFA. EPA will respond to questions from individual applicants regarding threshold eligibility criteria, administrative issues related to the submission of the application, and requests for clarification about any of the language or provisions in the announcement through the questions and answers document.

Applicants may email questions to AirMonitoring@epa.gov. All questions submitted via email by 4:00 p.m. ET each Friday during the RFA open period will be answered and posted in the questions and answers document the following week. All applicants are encouraged to check the document regularly. The deadline for submitting final questions regarding this RFA via email is March 18, 2022 at 4:00 PM EST. EPA will post the final questions and answers document no later than March 22, 2022.

APPENDIX A – Grants.gov Application Submission Instructions

The electronic submission of your application must be made by an official representative of your institution who is registered with Grants.gov and is authorized to sign applications for Federal assistance. For more information on the registration requirements that must be completed in order to submit an application through grants.gov, go to Grants.gov and click on "Applicants" on the top of the page and then go to the "Get Registered" link on the page. If your organization is not currently registered with Grants.gov, please encourage your office to designate an Authorized Organization Representative (AOR) and ask that individual to begin the registration process as soon as possible. Please note that the registration process also requires that your organization have a Unique Entity Identifier (e.g. DUNS number) and a current registration with the System for Award Management (SAM) and the process of obtaining both could take a month or more. Applicants must ensure that all registration requirements are met in order to apply for this opportunity through grants.gov and should ensure that all such requirements have been met well in advance of the submission deadline. Registration on grants.gov, SAM.gov, and DUNS number assignment is FREE. Please see RAIN-2021-G01 for information about EPA's implementation of the upcoming Government-wide transition from DUNS to Unique Entity Identifier (UEI).

Applicants need to ensure that the AOR who submits the application through Grants.gov and whose Unique Entity Identifier (e.g., DUNS number) is listed on the application is an AOR for the applicant listed on the application. Additionally, the DUNS number listed on the application must be registered to the applicant organization's SAM account. If not, the application may be deemed ineligible.

To begin the application process under this grant announcement, go to Grants.gov and click on "Applicants" on the top of the page and then "Apply for Grants" from the dropdown menu and then follow the instructions accordingly. Please note: To apply through Grants.gov, you must use Adobe Reader software and download the compatible Adobe Reader version. For more information about Adobe Reader, to verify compatibility, or to download the free software, please visit Adobe Reader Compatibility Information on Grants.gov

You may also be able to access the application package for this announcement by searching for the opportunity on Grants.gov. Go to Grants.gov and then click on "Search Grants" at the top of the page and enter the Funding Opportunity Number, EPA-OAR-OAQPS-22-01, or the Assistance Listing number (66.034), in the appropriate field and click the Search button.

Please Note: All applications must now be submitted through Grants.gov using the "Workspace" feature. Information on the Workspace feature can be found at the Grants.gov Workspace Overview Page.

Application Submission Deadline: Your organization's AOR must submit your complete application package electronically to EPA through Grants.gov no later than **March 25, 2022 by 11:59 p.m. ET**. Please allow for enough time to successfully submit your application process and allow for unexpected errors that may require you to resubmit.

Please submit *all* of the application materials described below using the Grants.gov application package accessed using the instructions above.

Application Materials

The following forms and documents are required under this announcement, as described in Section IV.C. of the RFA:

Mandatory Documents:

a. Standard Form 424, *Application for Federal Assistance* (**Required**). Please note that the organizational Dun and Bradstreet (D&B) Data Universal Number System (DUNS) number must be included on the SF-424. Organizations may obtain a DUNS number at no cost by calling the toll-free DUNS number request line at 1-866-705-5711.

b. Standard Form 424A, *Budget Information for Non-Construction Programs* (**Required**)

c. EPA Form 4700-4, *Pre-Award Compliance Review Report for All Applicants Requesting Federal Financial Assistance* (**Required**)

d. EPA Form 5700-54, *Key Contacts Form* (**Required**)

e. Project Narrative Attachment Form (**Required**, see Section IV.C.2. below for additional information)

f. Attachments using the Other Attachments Form

- Quality Assurance Statement
- Proof of Nonprofit Status, if applicable
- Community-based Organization Documentation, if applicable –

Optional Documents:

- Use the Other Attachments Form in Grants.gov for the following optional documents:
  - Partnership Letter(s)
  - Resumes of the Project Manager and Other Key Personnel

Applications submitted through Grants.gov will be time and date stamped electronically.

If you have not received a confirmation of receipt from EPA (not from Grants.gov) within 30 days of the application deadline, please contact Tim Roberts at AirMonitoring@epa.gov. Failure to do so may result in your application not being reviewed.

Technical Issues with Submission

1. Once the application package has been completed, the "Submit" button should be enabled. If the "Submit" button is not active, please call Grants.gov for assistance at 1-800-518-4726. Applicants who are outside the U.S. at the time of submittal and are not able to access the toll-free number may reach a Grants.gov representative by calling 606-545-5035. Applicants should save the completed application package with two different file names before providing it to the AOR to avoid having to re-create the package should submission problems be experienced or a revised application needs to be submitted.

2. Submitting the application. The application package must be transferred to Grants.gov by an AOR. The AOR should close all other software before attempting to submit the application package. Click the "submit" button of the application package. Your Internet browser will launch and a sign-in page will appear. **Note: Minor problems are not uncommon with transfers to Grants.gov. It is essential to allow sufficient time to ensure that your application is submitted to Grants.gov BEFORE the due date identified in Section IV of the solicitation.** The support desk operates 24 hours a day, seven days a week, except Federal Holidays.

A successful transfer will end with an on-screen acknowledgement. **For documentation purposes, print or screen capture this acknowledgement.** If a submission problem occurs, reboot the computer – turning the power off may be necessary – and re-attempt the submission.
Note: Grants.gov issues a "case number" upon a request for assistance.

3. Transmission Difficulties. If transmission difficulties that result in a late transmission, no transmission, or rejection of the transmitted application are experienced, and following the above instructions do not resolve the problem so that the application is submitted to Grants.gov by the deadline date and time, follow the guidance below. The Agency will make a decision concerning acceptance of each late submission on a case-by-case basis. All emails, as described below, are to be sent to Tim Roberts with the FON in the subject line. If you are unable to email, contact Tim Roberts at (202) 564-6004. Be aware that EPA will only consider accepting applications that were unable to transmit due to Grants.gov or relevant www.SAM.gov system issues or for unforeseen exigent circumstances, such as extreme weather interfering with internet access. Failure of an applicant to submit timely because they did not properly or timely register in SAM.gov or Grants.gov is not an acceptable reason to justify acceptance of a late submittal.

If you are experiencing problems resulting in an inability to upload the application to Grants.gov, it is essential to call Grants.gov for assistance at 1-800-518-4726 before the application deadline. Applicants who are outside the U.S. at the time of submittal and are not able to access the toll-free number may reach a Grants.gov representative by calling 606-545-5035. **Be *sure* to obtain a case number from Grants.gov**. If the problems stem from unforeseen exigent circumstances unrelated to Grants.gov, such as extreme weather interfering with internet access, contact Tim Roberts at AirMonitoring@epa.gov.

Unsuccessful transfer of the application package: If a successful transfer of the application cannot be accomplished even with assistance from Grants.gov due to electronic submission system issues or unforeseen exigent circumstances, and you have already attempted to resolve the issue by contacting Grants.gov, send an email message to AirMonitoring@epa.gov prior to the application deadline. **The email message must document the problem and include the Grants.gov case number as well as the entire application package in PDF format as an attachment.**

Grants.gov rejection of the application package: If a notification is received from Grants.gov stating that the application has been rejected for reasons other than late submittal promptly send an email to AirMonitoring@epa.gov with the FON in the subject line within one business day of the closing date of this solicitation. The email should include any materials provided by Grants.gov and attach the entire application in PDF format.

Please note that successful submission through Grants.gov or via email does not necessarily mean your application is eligible for award.

APPENDIX B – Project Narrative Instructions, Format, and Content

Instructions: The project narrative must substantially comply with the instructions, format, and content described below. It must also address the evaluation criteria in Section V.A. of the Request for Applications (RFA). You may receive a score of 0 for any evaluation factor that your application does not address.

The project narrative, including the cover page, workplan, and budget table and detail, must not exceed a maximum of 12 single-spaced typewritten pages. Pages in excess of the 12-page limit will not be reviewed. Additionally, the project narrative should be in a legible font (e.g., size 12 Times New Roman font, size 11 Calibri font, etc); smaller font sizes may be used for tables and figures.

Supporting materials, such as project team biographies, partnership letters, and negotiated indirect cost rate agreements can be submitted as attachments and are not included in the 12-page limit. Supporting materials should also be submitted using the Optional Attachments form.

Applicants should ensure that their project narratives are written clearly using understandable terms. Doing so will help ensure that the evaluation team members understand the purpose, outputs, and outcomes of the proposed project.

Applicants are not required, but highly encouraged, to use the project narrative, including cover page, format below.

I. Cover Page:

The cover page should not exceed one page. The cover page should include the following information:

- **Project Title**: One descriptive sentence only.
- **Applicant Information:**
  - Applicant Organization
  - Address
  - Primary contact name, phone number, and e-mail address
  - DUNS number
- **Set-Aside:** Choose either "tribal set-aside," "community-based organization set-aside," or "no set-aside." If applying for the community-based organization set-aside, include a brief description of the community the organization represents.
- **Brief Description of Applicant Organization:** In one to three sentences only, provide a brief description of the applicant organization, including its mission and key ongoing projects/activities in which it is involved.
- **Project Partner(s) (if applicable):**
  - Partner Organization
  - Partner Primary Contact Name
- **Project Location**: List the primary location(s) where the benefits of the project will be realized (including community/neighborhood(s), city, state, and zip code).
- **Air Pollutant Scope:** List the target air pollutants that are the focus of the application. See Section I.B. for pollutants covered under this RFA.

- **Budget Summary:** Include the following table:

EPA Funding Requested	Total Project Cost
TBD	TBD

As noted in Section II.A. of the RFA, while each application can request up to the full funding amount of $500,000 (but no less than $25,000), the total amount of requested funding needs to be commensurate with the applicant's proposed activities. In determining your funding request amount, keep in mind that EPA anticipates awarding approximately 20-30 assistance agreements ranging in value from $25,000 to $100,000 (*i.e.*, "Small Grants") and 30-40 assistance agreements ranging in value from $100,001-$500,000 (*i.e.*, "Large Grants"). EPA may increase or decrease the number of small or large grants based on the number of meritorious applications received, agency priorities, funding availability, and other applicable considerations.

- **Project Period:** Provide beginning and ending dates.
- **Short Project Description:** Briefly describe your project in one to three sentences only, especially noting the main objective, activities, expected outputs and outcomes.

II. Workplan:

Applicants must ensure that the workplan addresses the evaluation criteria in Section V. of the RFA. Applicants should use the section and subsection numbers and headings below which correspond with the evaluation criteria in Section V.A. of the RFA. The workplan should be written clearly using understandable terms.

Section 1 – Project Summary and Approach (30 total possible points from Section V.A. of the RFA)

Applications should only include information in Section 1 of their workplan that will not be covered by another section of their workplan. This section should contain a detailed project description of the following information:

A. Overall Project (20 possible points)

Provide a detailed project summary and description of the proposed activities to be undertaken, consistent with Section I.B. (Scope of Work) of the RFA. Include details of every activity for which the applicant is seeking funding. Provide a clear description of the steps the applicant will take to meet the program objectives and execute the project.

B. Project Significance (10 possible points)

Describe the extent of the environmental or public health problem the proposed project will address. Provide both details of how the proposed project will address these problems and an explanation of project benefits to the public, and specifically the potential audience(s) served. The project narrative should include a discussion of how the proposed project will address the needs and concerns of affected communities. A description of the current environmental impacts or burdens located around the proposed project should be included, explaining how the affected communities are potentially vulnerable to these environmental burdens. The application should also include relevant information such as demographics, geographic location, and community history. (Note: Environmental justice should be addressed under

Section 3 of the Project Narrative).

Section 2 – Community Involvement (25 total possible points from Section V.A of the RFA. 35 possible points for applicants applying for community-based organization set-aside)
As defined in the Office of Management and Budget's M-21-08, "community" means: either a group of individuals living in geographic proximity to one another, or a geographically dispersed set of individuals (such as migrant workers or Native Americans), where either type of group experiences common conditions.[§]

A. Community Partnerships (15 possible points)
The applicant should discuss how the project promotes community benefits through engagement and possible partnership(s). Describe the partnerships identified in the project including:

- Planned roles of each partner listed in your Project Summary, including which project activities each will be responsible for and what resources each partner brings to the partnership;
- Whether the partners have expertise on the issues addressed by the project;
- How each partner will benefit by working with a member of this partnership (other than just getting income from a subaward or contract); and,
- If applicable, how the applicant organization plans to maintain and sustain these relationships into the future.

Commitment letters from all project partners will be reviewed as part of the evaluation process. Applications with partnership letters that demonstrate strong involvement throughout the project from a variety of project partners may also be evaluated more favorably than others. Letters should specifically indicate how project partners and supporting organizations will participate in or directly assist in the design and performance of the project, including their specific role, or how obtaining support from project partners will allow the applicant to more effectively perform the project. Letters should be addressed to the applicant organization and included as attachments to the application; see Section IV.C. of the RFA. **Please do not ask partners to submit letters directly to EPA.** Any partners named in the application are subject to the "Contracts and Subawards" clause that can be accessed under Section IV.d. of the additional EPA Solicitation Clauses: www.epa.gov/grants/epa-solicitation-clauses.

If there are no partnerships associated with the application, please indicate this in the workplan and describe how you will perform the project effectively without partnerships.

B. Community Engagement (10 possible points)
In addition to the information included under Section 2.A., applications will be evaluated based on the effectiveness of the applicant's plan for engaging local community members with respect to the design and performance of the proposed project and obtaining support from project partners to more effectively perform the project. Applicants will be evaluated on their approach for incorporating community input throughout the design and performance of

[§] CEQ, Environmental Justice: Guidance under the National Environmental Policy Act (Dec. 10, 1997), available at *https://ceq.doe.gov/docs/ceq-regulations-and-guidance/regs/ej/justice.pdf*

the project. Community engagement and partnership efforts could include various organizations representing a broad spectrum of the community; examples include grassroots, neighborhood, school, faith-based, city council, business, local government, and other organizations. Applications that demonstrate recent involvement of project partners and community members working together on other projects may be evaluated more favorably than others.

Applicants should include a strategy to ensure that the collected data is useable, accessible to the public, and will be shared with appropriate stakeholders (*e.g.*, local government) and local communities in a practicable amount of time. Data and/or related observations must be shared throughout the lifetime of the project and not only after the project is at or near completion.

B. Community-Based Organization Set-Aside (10 possible points)
This evaluation sub-criterion is only required if applying under the community-based organization set-aside. Applicants applying under the community-based organization set-aside should provide a detailed description of how their organization meets the "community-based organization" criteria as defined in Section III.C.6. of this announcement. Applicants applying for the community-based organization set-aside should submit documentation to demonstrate the community the organization represents. This documentation can include the organization's charter, mission statement or other official document that states the community that the organization represents. This documentation can be submitted using the Other Attachments Form in grants.gov and does not count towards the 12-page limit of the project narrative. In addition to describing the community that the applicant's organization represents, applicants should also address how their organization:

- Has demonstrated effectiveness as a representative of the community or a significant segment of the community and
- Helps members of that community or segment obtain environmental, health, educational, or other social services.

Section 3 – Environmental Justice and Underserved Communities (10 total possible points from Section V.A. of the RFA)
This section of the workplan should include a detailed discussion of how the proposed project will promote environmental justice, as described in Section I.C.3. of the RFA. Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.

Applicants should describe how the project will effectively address disproportionate health outcomes from pollution and the COVID–19 pandemic, that have affected and/or currently affect people/communities of color, low income, tribal, and indigenous populations, and if applicable other vulnerable populations such as the elderly, children, and those with pre-existing medical conditions. Adverse impacts may be the result of industrial, governmental, commercial and/or other actions and include the accompanying economic challenges of such impacts. Adverse impacts may be the result of the COVID-19 pandemic, industrial, governmental, commercial and/or other actions and include the accompanying economic challenges of such impacts.

As applicable, applicants should demonstrate how the project benefits these communities and/or populations including those in the communities/populations that have experienced a lack of resources or other impediments to addressing the adverse impacts described above. Additionally, applicants should describe the extent to which the project addresses engagement with these communities and/or populations to ensure their meaningful participation with respect to the design, planning, and performance of the project.

NOTE: Disproportionate health outcomes from pollution and the COVID–19 pandemic, as well the accompanying economic challenges of such impacts, may result when greater pollution burdens or consequences, and the impact of them, are more likely to affect people/communities of color, low income, tribal and indigenous populations and vulnerable populations including those identified above. The impacts may result from various factors including but not limited to being a function of historical trends and policy decisions.
Factors that may indicate disproportionate and adverse impacts as referenced above include:

- Differential proximity and exposure to environmental hazards;
- Greater susceptibility to adverse effects from environmental hazards (due to genetic predisposition, age, chronic medical conditions, lack of health care access, the COVID-19 pandemic, or poor nutrition);
- Unique environmental exposures because of practices linked to cultural background or socioeconomic status (e.g., subsistence fishing or farming);
- Cumulative effects from multiple stressors;
- Reduced ability to effectively participate in decision-making processes due to language barriers, inability to access traditional communication channels, or limited capacity to access technical and legal resources; and
- Degraded physical infrastructure, such as poor housing, poorly maintained public buildings (e.g., schools), or lack of access to transportation.

Applicants are encouraged, as appropriate, to include data from EPA's EJSCREEN tool (or other EJ-focused geospatial mapping tools) as part of their application to help characterize and describe the affected communities/populations and area(s). Data from other sources (e.g., studies, census, and third-party reports) should also be included to give a more complete picture of the impacted communities and populations. Instructions, resources, and tutorials on how to use EJSCREEN are included at the hyperlink above.

Section 4 – Environmental Results—Outcomes, Outputs and Performance Measures (20 total possible points from Section V.A. of the RFA)

A. Expected Project Outputs and Outcomes (10 possible points)
Identify the expected quantitative and qualitative outcomes and outputs of the project as defined in Section I.C. of the RFA. Specific outputs and outcomes should be provided and may include short- and longer-term activities. Applicants will be evaluated on the quality of the expected project outputs and outcomes identified in the application for their project. The expected outputs and outcomes should be effective in achieving the Program Objectives listed in Section I of the RFA, including developing strategies for addressing local

environmental or public health issues. In addition to a narrative discussion of the outputs and outcomes, the applicant is encouraged to include a table of the expected outputs and outcomes.

B. Performance Measures and Plan (5 possible points)
Applicants should describe the proposed performance measures, which will be the mechanism to track, measure, and report progress towards achieving the expected outputs and outcomes. Applicants should describe their plan for tracking and measuring progress toward achieving the expected project outputs and outcomes and how the results of the project will be evaluated, as described in Section I.C. of the RFA and Section 4.a. of this appendix.

C. Timeline and Milestones (5 possible points)
The applicant should include a detailed and organized timeline for the project including milestones for specific tasks, such as bidding, procurement, installation, and reports, along with estimated dates. Applicant should include scheduled time for quarterly and final report preparation into the project timeline. It is recommended that you insert a table in your work plan narrative to help organize your milestone schedule. Your milestone schedule should support and/or supplement the clear descriptions you provide in the Project Summary section.

Section 5 – Quality Assurance Statement (5 total possible points from Section V.A. of the RFA)

A quality assurance statement is a brief description of the quality assurance and quality control practices that will be applied during the project. In no more than 2 pages, the applicant shall state their understanding and intent to carry out work under this potential agreement within a quality assurance system commensurate with the degree of confidence needed for the environmentally related data operations (Note that this statement does not count towards the 12-page limit of the project narrative and should be submitted using the Optional Attachment form).

- Identify the individual who will be responsible for the quality assurance (QA) and quality control (QC) aspects of the project along with a brief description of this person's functions, experience, and authority within the research organization. Describe the organization's general approach for conducting quality assurance.
- Discuss the potential criteria and/or process for determining acceptable data quality (e.g., precision, accuracy, representativeness, completeness, comparability, or data quality objectives).

Note: As detailed in 2 CFR §1500.12, a full quality assurance project plan will be required prior to award of an assistance agreement that involves environmental data collection, production, or use.

Section 6 – Programmatic Capability and Past Performance (15 total possible points from Section V.A. of the RFA)

In evaluating applicants under these factors in Section V, EPA will consider the information provided by the applicant and may also consider relevant information from other sources, including information from EPA files and from current/prior grantors (e.g., to verify and/or

supplement the information provided by the applicant). If you do not have any relevant or available past performance or past reporting information, please indicate this in the application and you will receive a neutral score for these factors (a neutral score is half of the total points available in a subset of possible points). If you do not provide any response for these items, you may receive a score of 0 for these factors.

A. **Past Performance** (5 possible points)
   Submit a list of federally and/or non-federally funded assistance agreements (assistance agreements include grants and cooperative agreements but not contracts) that your organization performed within the last three years (no more than 5 agreements) and describe whether, and how, you were able to successfully complete and manage those agreements.

B. **Reporting Requirements** (5 possible points)
   For each of the agreements listed, describe your history of meeting the reporting requirements under those agreements including whether you adequately and timely reported on your progress towards achieving the expected outputs and outcomes of those agreements (and if not, explain why not) and whether you submitted acceptable final technical reports under the agreements.

C. **Staff Expertise** (5 possible points)
   Include information on the applicant's organization, including a description of the staff's expertise, qualifications, staff knowledge, and resources or the ability to obtain them, to successfully achieve the goals of the proposed project. Biographical sketches, including resumes or curriculum vitae for key staff, managers and any other key personnel can be included as an optional project team biography attachment, as listed in Section IV.C.6. of the RFA; the optional attachment does not count towards the 12-page limit of the project narrative.

Note: In evaluating applicants under these factors in Section V, EPA will consider the information provided by the applicant and may also consider relevant information from other sources, including information from EPA files and from current/prior grantors (e.g., to verify and/or supplement the information provided by the applicant). If you do not have any relevant or available past performance or past reporting information, please indicate this in the application and you will receive a neutral score for these factors (a neutral score is half of the total points available in a subset of possible points). If you do not provide any response for these items, you may receive a score of 0 for these factors.

Section 7 – Budget (20 total possible points from Section V.A. of the RFA)

This section of the project narrative is a detailed description of the budget found in the SF-424A and must include a discussion of the applicant's approach to ensuring proper management of grant/cooperative agreement funds, a detailed budget narrative, as well as the itemized budget table below. An applicant's budget table and budget narrative must account for both federal funds and any non-federal voluntary cost share, if applicable. Selected applicant(s) will need to submit a copy of their current indirect cost rate that has been negotiated with a federal cognizant agency prior to award. Additional guidance for developing the applicant's budget is available in RAIN-2019-G02, "Interim General Budget Development Guidance for Applicants and

Recipients of EPA Financial Assistance."

A. Budget Detail (5 possible points)
Whether the proposed budget provides a detailed breakout by funding type included in the proper budget category for each activity requesting funds.

Applicants should provide a detailed breakout by funding type included in the proper budget category for each activity requesting funds. Applicants should use the instructions, budget object class descriptions, and example table below to complete the detailed budget section of the project narrative. The budget detail and the budget table should be included in the project narrative and count towards the maximum 12-page limit. Additional budget documents, excluding the SF-424 and SF-424A forms, or project narratives pages in excess of the page limitation will not be reviewed, as listed in Section III.D. of the RFA. Applicants should include applicable rows of costs for each budget category in their budget table to accurately reflect the proposed project budget. Applicants must itemize costs related to personnel, fringe benefits, travel, equipment, installation or labor supplies, contractual costs, other direct costs (i.e., subawards, participant support costs), indirect costs, and total costs. If providing a voluntary cost share, the budget detail must clearly specify the amount of federal funding and the cost share amount for each category. See Appendix C for more information on participant support costs and RAIN-2018-G05, "EPA Guidance on Participant Support Costs."

- **Personnel - List all staff positions by title. Give annual salary, percentage of time assigned to the project, and total cost for the budget period.** This category includes only direct costs for the salaries of those individuals who will perform work directly for the project (paid employees of the applicant organization as reflected in payroll tax records). If the applicant organization is including staff time (in-kind services) as a cost-share, this should be included as Personnel costs. Personnel costs do not include: (1) costs for services of contractors (including individual consultants), which are included in the "Contractual" category; (2) costs for employees of subrecipients under subawards or non-employee program participants (e.g., interns or volunteers), which are included in the "Other" category; or (3) effort that is not directly in support of the proposed project, which may be covered by the organization's negotiated indirect cost rate. The budget detail must identify the personnel category type by Full Time Equivalent (FTE), including percentage of FTE for part-time employees, number of personnel proposed for each category, and the estimated funding amounts.

- **Fringe Benefits - Identify the percentage used, the basis for its computation, and the types of benefits included**. Fringe benefits are allowances and services provided by employers to their employees as compensation in addition to regular salaries and wages. Fringe benefits may include, but are not limited to the cost of leave, employee insurance, pensions and unemployment benefit plans. If the applicant's fringe rate does not include the cost of leave, and the applicant intends to charge leave to the agreement, it must provide supplemental information describing its proposed method(s) for determining and equitably distributing these costs.

- **Travel - Specify the mileage, per diem, estimated number of trips in-state and out-of-state, number of travelers, and other costs for each type of travel.** Travel may be integral to the purpose of the proposed project (e.g., inspections); related to proposed project activities (e.g., attendance at meetings); or to a technical training or workshop that supports effective implementation of the project activities. Only include travel costs for employees in the travel category. Travel costs do not include: (1) costs for travel of contractors (including consultants), which are included in the "Contractual" category; (2) travel costs for employees of subrecipients under subawards and non-employee program participants (e.g., trainees), which are included in the "Other" category. Further, travel does not include bus rentals for group trips, which would be covered under the contractual category. Finally, if the applicant intends to use any funds for travel outside the United States, it must be specifically identified. All proposed foreign travel must be approved by EPA's Office of International and Tribal Affairs prior to being taken.

- **Equipment - Identify each item to be purchased which has an estimated acquisition cost of $5,000 or more per unit and a useful life of more than one year.** Equipment also includes accessories necessary to make the equipment operational. Equipment does not include: (1) equipment planned to be leased/rented, including lease/purchase agreement; or (2) equipment service or maintenance contracts that are not included in the purchase price for the equipment. These types of proposed costs should be included in the "Other" category. Items with a unit cost of less than $5,000 should be categorized as supplies, pursuant to 2 CFR 200.1, "Equipment." The budget detail must include an itemized listing of all equipment proposed under the project. If installation costs are included in the equipment costs, labor expenses shall be itemized with the detailed number of hours charged and the hourly wage. If the applicant has written procurement procedures that define a threshold for equipment costs that is lower than $5,000, then that threshold takes precedence.

- **Supplies - "Supplies" means all tangible personal property other than "equipment."** The budget detail should identify categories of supplies to be procured (e.g., laboratory supplies or office supplies). Non-tangible goods and services associated with supplies, such as printing service, photocopy services, and rental costs should be included in the "Other" category.

- **Contractual - Identify each proposed contract and specify its purpose and estimated cost.** Contractual services (including consultant services) are those services to be carried out by an individual or organization, other than the applicant, in the form of a procurement relationship. EPA's Subaward Policy and supplemental Frequent Questions has detailed guidance available for differentiating between contractors and subrecipients. Leased or rented goods (equipment or supplies) should be included in the "Other" category. EPA does not require applicants to identify specific contractors. The applicant should list the proposed contract activities along with a brief description of the anticipated scope of work or services to be provided, proposed duration, and proposed procurement method (competitive

or non-competitive), if known. Any proposed non-competed/sole-source contracts in excess of $3,500 must include a justification. Note that it is unlikely that EPA will accept proposed sole source contracts for goods and services (e.g., consulting) that are widely available in the commercial market. Refer to EPA's Best Practice Guide for Procuring Services, Supplies, and Equipment Under EPA Assistance Agreements for EPA's policies on competitive procurements and encouraging the use of small and disadvantaged business enterprises.

- **Other - List each item in sufficient detail for EPA to determine the reasonableness and allowability of its cost.** This category should include only those types of direct costs that do not fit in any of the other budget categories. Examples of costs that may be in this category are: insurance; rental/lease of equipment or supplies; equipment service or maintenance contracts; printing or photocopying; participant support costs such as non-employee training stipends and travel; and subaward costs. Applicants should describe the items included in the "Other" category and include the estimated amount of participant support costs in a separate line item. Additional information about participant support costs is contained in RAIN-2018-G05, "EPA Guidance on Participant Support Costs."

  Subawards (e.g., subgrants) and participant support costs are a distinct type of cost under this category. The term "subaward" means an award of financial assistance (money or property) by any legal agreement made by the recipient to an eligible subrecipient even if the agreement is referred to as a contract. Rebates, subsidies, and similar one-time, lump-sum payments to program beneficiaries for purchase of eligible emission control technologies are considered participant support costs. Refer to EPA's Subaward Policy and supplemental Frequent Questions for detailed guidance on funding projects and partnerships and how to correctly categorize these costs in the workplan budget. "Other" does not include procurement purchases, technical assistance in the form of services instead of money, or other assistance in the form of revenue sharing, loans, loan guarantees, interest subsidies, insurance, or direct appropriations. Subcontracts are not subawards and belong in the contractual category. Applicants must provide the aggregate amount they propose to issue as subaward work as a separate line item in the "Other" category, and a description of the types of activities to be supported.

- **Indirect Charges - If indirect charges are budgeted, indicate the approved rate and base.** Indirect costs are those incurred by the grantee for a common or joint purpose that benefit more than one cost objective or project and are not readily assignable to specific cost objectives or projects as a direct cost. Examples of Indirect Cost Rate calculations are shown below:
  - Personnel (Indirect Rate x Personnel = Indirect Costs)
  - Personnel and Fringe (Indirect Rate x Personnel & Fringe = Indirect Costs)
  - Total Direct Costs (Indirect Rate x Total direct costs = Indirect Costs)
  - Direct Costs, less distorting or other factors such as contracts and equipment (Indirect Rate x (total direct cost – distorting factors) = Indirect Costs)

Additional indirect cost guidance is available in RAIN-2018-G02, "Indirect Cost Guidance for Recipients of EPA Assistance Agreements."

Example Budget Table (Required, part of the 12-page limit)

Line Item & Itemized Cost	EPA Funding**
Personnel	
(1) Project Manager @ $40/hr x 10 hrs/wk x 156 wks	$62,400
(2) Project Staff @ $25/hr x 40 hrs/wk x 156 wks	$156,000
TOTAL PERSONNEL	$218,400
Fringe Benefits	
20% of Salary and Wages @ 20% x Total Personnel - Retirement, Health Benefits, FICA, SUI	$43,680
TOTAL FRINGE BENEFITS	$43,680
Travel	
Mileage for PM: 25 miles/wk @ $.17/mi x 208 wks	$884
Mileage for Staff: 50 mi/wk @ $.17/mi x 208 wks	$1,768
TOTAL TRAVEL	$2,652
Equipment	
5 continuous $PM_{2.5}$ monitors @ $12,000/unit	$60,000
TOTAL EQUIPMENT	$60,000
Supplies	
Outreach Materials and Supplies	$2,500
5 Tablet Computers @ $750/unit	$3,750
TOTAL SUPPLIES	$6,250
Contractual	
Support Services Contract	$25,000
TOTAL CONTRACTUAL	$25,000
Other	
Subaward Costs	$25,000
Community Meeting Logistics	$4,000
TOTAL OTHER	$29,000
Indirect Charges	
Federal Indirect Cost Rate x Personnel = Indirect Costs (Federal Negotiated Indirect Cost Rate = 20%)	$21,840
TOTAL INDIRECT	$21,840
TOTAL FUNDING	**$406,822**
TOTAL PROJECT COST††	**$406,822**

** EPA Funding amount must be included on the SF-424 in Section 18.a and SF-424A in: cell 5(e) under Section A – Budget Summary; and Column (1) under Section B – Budget Categories.

†† Total Project Cost must be included on the SF-424 in Section 18.g and SF-424A in: cell 5(g) under Section A – Budget Summary; and column (5), Row k under Section B – Budget Categories.

Note on Management Fees: When formulating budgets for applications, applicants must not include management fees or similar charges in excess of the direct costs and indirect costs at the rate approved by the applicant's cognizant federal audit agency, or at the rate provided for by the terms of the agreement negotiated with EPA. The term "management fees or similar charges" refers to expenses added to the direct costs in order to accumulate and reserve funds for ongoing business expenses, unforeseen liabilities, or for other similar costs that are not allowable under EPA assistance agreements. Management fees or similar charges cannot be used to improve or expand the project funded under this agreement, except to the extent authorized as a direct cost of carrying out the work plan.

B. Reasonableness of Costs (10 possible points)

EPA will evaluate the reasonableness of the applicant's budget based on the applicant's narrative description of the budget and detailed breakout of requested funding for each work component or task. Provide a detailed description of every itemized cost, including how every cost relates to the project narrative and specific emission reduction activities. Instructions for what to include in the Budget Detail are described in Section 7.a. of this Appendix above.

Applicants must itemize the cost categories as listed below and the SF-424A form: personnel, fringe benefits, contractual costs, travel, equipment, supplies, contractional costs, other direct costs (subawards, participant support costs), indirect costs, and total costs. Round up to the nearest dollar and do not use any cents.

For applicants that provide a voluntary cost share/match or leveraged resources as described in Section III.B. of the RFA and Section 7 of this appendix, the budget narrative must include a detailed description of how the applicant will obtain the cost share and leveraged resources and how the cost share funding and leveraged resources will be used. Proposed voluntary cost share included in the budget detail must also be included on the SF-424 and SF-424A. Leveraged resources should not be included in the SF-424 or SF-424A.

Recipients may issue subawards, contracts, or participant support costs to implement projects. Refer to EPA's Best Practice Guide for Procuring Services, Supplies, and Equipment Under EPA Assistance Agreements, EPA's Subaward Policy, RAIN-2018-G05, "EPA Guidance on Participant Support Costs" and supplemental Frequent Questions for additional guidance.

C. Expenditure of Awarded Funds (5 possible points)

Applicants should provide a detailed written description of the applicant's approach, procedures, and controls for ensuring that awarded grant funds will be expended in a timely and efficient manner.

Section 6 – Optional Attachments (As listed in Section IV.C. of the RFA; this information does not count towards the project narrative 12-page limit):

1. **Partnership Letter(s)-** If applicable, letters that demonstrate strong involvement throughout the project from a variety of project partners are encouraged. Letters should be addressed to the applicant organization. Please do not ask partners to submit letters directly to EPA. Note also the requirements described earlier on naming partners that will be parties to EPA funded financial transactions.

2. **Resumes of the Project Manager and Other Key Personnel-** Applicants can attach a resume or curricula vitae (CV) for the project manager and other key personnel. These are not subject to the workplan page limit although individual resumes should not exceed 2 pages in length. Refer to direction in the RFA on naming contractors (including individual consultants) as project partners whose qualifications will be reviewed by EPA as part of the evaluation process.

KATHERINE GILMORE RICHARDSON
COUNCILMEMBER, AT-LARGE

CITY HALL, ROOM 581
PHILADELPHIA, PA 19107
PHONE: 215-686-0454 or 0455
www.phlcouncil.com/KatherineGilmoreRichardson/

CITY OF PHILADELPHIA

CITY COUNCIL

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Environment

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Commerce & Economic Development
Housing, Neighborhood Development & the Homeless
People with Disabilities & Special Needs
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Labor & Civil Service
Rules

Friday, March 4, 2022

Kassahun Sellassie, Ph.D., P.E.
Director, Philadelphia Air Management Services
321 University Avenue, 2nd Floor
Philadelphia, PA 19104

Re: The American Rescue Plan Grant Application
RFA NUMBER: EPA-OAR-OAQPS-22-01

Dear Dr. Sellassie,

I write to provide my strong support for the grant application entitled American Rescue Plan Grant EPA-OAR-OAQPS-22-01 submitted to the U.S.EPA by Philadelphia Air Management Services (AMS).

As you know, Philadelphia struggles immensely with issues of environmental justice. Following recent research showing a connection between exposure to air pollution and increased mortality from COVID-19, it is even more important that we co-create solutions with environmental justice communities who have borne the brunt of legacy pollution and all of its associated health impacts.

I am thrilled that Philadelphia Air Management Services is applying to the U.S. EPA American Rescue Plan grant to fund community-based education and monitoring programs in EJ communities. I am committed to working with AMS to design and implement an outreach program with the goals of enhancing environmental literacy and improving the understanding of the connections between exposure to air toxics and health, as well as working with AMS and local community partners to co-create a new local air monitoring program in a way that builds community trust in monitoring and provides for meaningful engagement of communities in the design and implementation of the program. In summary, you have my full commitment to work in partnership on this very important project and to work on behalf of Philadelphia's EJ communities to improve their quality of life.

In Service,

Katherine Gilmore Richardson
Councilmember, At-Large
Chair, Committee on the Environment
Vice Chair, Environmental Justice Working Group, U.S. EPA Local Government Advisory Committee

CLEAN AIR COUNCIL

March 2, 2022

Kassahun Sellassie, Ph.D., P.E.
Director, Philadelphia Air Management Services
321 University Avenue, 2nd Floor
Philadelphia PA 19104

Re: The American Rescue Plan Grant Application

RFA NUMBER: EPA-OAR-OAQPS-22-01

Dear Dr. Sellassie,

The Clean Air Council (the Council) is pleased to enthusiastically and strongly support the grant application submitted to the US.EPA by Philadelphia Air Management Services (AMS) under the American Rescue Plan Grant EPA-OAR-OAQPS-22-01.

Philadelphia has more residents living in deep poverty than any other large city in the United States. For many years the Council has urged AMS to find the funds to implement a program to better assess hazardous emissions in environmental justice neighborhoods throughout Philadelphia.

This grant meets that important need by offering those Philadelphia communities where most of the residents are low income, people of color, particularly vulnerable and live in neighborhoods with the highest concentration of hazardous air contaminants.

The Council will work with AMS in any way that will help implement this important project. The Council does a lot of work in neighborhoods throughout Philadelphia. The Council is happy to help AMS design and implement an effective outreach program with the goal of enhancing environmental literacy that will allow local residents to better understand the connections between exposure to air toxics and health impacts in their communities. The Council willingly commits to help ensure that there is meaningful involvement of community members in the design and implementation of all outreach strategies and programs.

This is a great opportunity for the City of Philadelphia. In summary, you have the Council's commitment to work in partnership with AMS on this very important project to work on behalf of Philadelphia communities to ensure better environmental health in those neighborhoods

Sincerely

Joseph Otis Minott, Esq.
Executive Director and Chief Counsel

PHILADELPHIA	135 S. 19th Street	Suite 300	Philadelphia, PA 19103	215.567.4004	Fax. 215.567.5791	www.cleanair.org
HARRISBURG	107 N. Front Street	Suite 113	Harrisburg, PA 17101	717.230.8806	Fax. 717.230.8800	facebook.com/CleanAirCouncil
WILMINGTON	100 W. 10th Street	Suite 1004	Wilmington, DE 19801	302.691.0112		@CleanAirCouncil
PITTSBURGH	200 First Avenue	Suite 200	Pittsburgh, PA 15222	412.954.8494		

THE SCHOOL DISTRICT OF
PHILADELPHIA
Girard Academic Music Program
2136 W. Ritner Streets
Philadelphia, PA 19145
tel (215) 400-8230 - fax (215) 400-8231
Ms. Jovan A. Moore, Principal

Kassahun Sellassie, Ph.D., P.E.
Director, Philadelphia Air Management Services
321 University Avenue, 2nd Floor
Philadelphia PA 19104

Re: Enhanced Air Quality Monitoring for Communities
RFP Number: EPA-OAR-OAQPS-22-01

Dear Dr. Sellassie,

We are delighted to provide our strongest support for the grant application entitled **Enhanced Air Quality Monitoring for Communities** submitted to the US.EPA by Philadelphia Air Management Services (AMS). The Girard Academic Music Program is one of the highest ranked schools in Pennsylvania and offers many specialized programs in music theory and practice, but also provides our students with a strong science curriculum that offers several courses related to the Environmental Sciences. Among the topics explored in these courses is local air quality with an emphasis on the association between environmental exposures and health outcomes. With previous funding support from AMS, we have been able to expand our curriculum, and increase our capacity to offer courses that increase our students' understanding of the importance of air quality and translate these findings, using unique projects connecting middle and high school scientific content, environmental justice, and creative deliverables into action items to create awareness in our local community.

This collaboration, between GAMP and AMS, has been able to continue this year allowing the continuation and expansion of the program at GAMP. The continuation allows us to reach a new generation of students that did not participate in the previous collaboration in 2016 further raising awareness about air quality as it relates to environmental exposure and health outcomes. Students have been researching the six criteria air pollutants, using local air quality data to discuss environmental justice in neighborhoods throughout Philadelphia, and developing educational products to reach our entire school community (5th through 12th grade) as well as other schools throughout the city. This educational product expansion into other schools will be the first step to export the curriculum developed through the partnership between GAMP and AMS, with additional steps occurring over the summer through teacher development and training. Expanding this curriculum at GAMP and exporting it to other schools would not be possible without the funding from AMS.

The grant GAMP has received from AMS has offered the GAMP faculty and students yet another opportunity to work again with top-notch professionals that can advance our student's academic potential and continue to promote community awareness for the need of good air quality in our neighborhoods. As the project develops deliverables and explores data that specifically defines the environmental exposures in these communities, the present and future partnership will work with AMS to design and implement an outreach program with the goals of enhancing environmental literacy and better understand the connections between exposure to air toxics and health in our communities. In summary, AMS has our full commitment to work in partnership on this very important project to advance our science curriculum at GAMP and to improve the environmental health in our communities.

Sincerely,

Jared Ruddick, Science Teacher

Perelman School of Medicine
University of Pennsylvania
CEET
CENTER OF EXCELLENCE IN ENVIRONMENTAL TOXICOLOGY

Kassahun Sellassie, Ph.D., P.E.
Director, Philadelphia Air Management Services
321 University Avenue, 2nd Floor
Philadelphia PA 19104

Re: **Enhanced Air Quality Monitoring for Communities**
RFP Number: EPA-OAR-OAQPS-22-01

March 7, 2022

Dear Dr. Sellassie,

We are delighted to provide our strongest support for this grant application entitled **Enhanced Air Quality Monitoring for Communities** submitted to the U.S. Environmental Protection Agency (EPA) by Philadelphia Air Management Services (AMS). We feel that this grant opportunity will build on ongoing efforts by AMS to improve air quality monitoring in vulnerable communities. The grant will also support additional outreach initiatives to promote understanding of potential risks from pollutants of concern within communities currently experiencing disproportionate and adverse health outcomes. Our cadre of physicians and research scientists has always enjoyed a productive relationship with AMS. The Center of Excellence in Environmental Toxicology (CEET), is the University of Pennsylvania's P30 Environmental Health Science Core Center (EHSCC) funded by the National Institute of Environmental Health Science (NIEHS). The EHSCC is the only Center in U.S.EPA Region III. The environmental health researchers, physicians and public health professionals of the CEET work every day on environmental health issues and recognize the value of quality scientific discovery to the establishment and maintenance of good public policy.

The major thrust of this grant proposal is to expand use of community monitoring advisory groups and other approaches that give the affected population a stronger voice in air quality monitoring strategies, while building a foundation of trusting relationships that will promote sustainable solutions to improve air quality. During our five years of collaboration, AMS has worked with the CEET and public schools in South Philadelphia to develop academic curriculum for the Girard Academy Music Program (GAMP) school that has proven successful in increasing student understanding and application of air quality monitoring for pollutants to achieve reduce risks for local vulnerable population, much of which may be characterized as an Environmental Justice (EJ) Community. Our current efforts at GAMP supported by AMS have focused on monitoring for Hazardous Air Pollutants (HAPs) and sharing this information locally and with neighboring communities that experience similar risks from air emissions. Many of our future activities encompass the goals of this grant proposal, including conducting public workshops, community engagement opportunities, producing air quality information through modeling, and educating the South Philadelphia neighborhoods about air quality within EJ populations. We believe that this grant opportunity will enable us to export much of our academic and community-based material to neighboring scools and communities that have similar air exposures, and can benefit from our expertise in assessing risks.

The Community Engagement Core (CEC) within the CEET engages Environmental Justice (EJ) communities, health care professionals, decision makers and individuals in a collaborative process to

research and develop strategies to mitigate adverse public health impacts to vulnerable populations. Our CEC has longstanding relationships with the communities in South and Southwest Philadelphia to help them to understand the health risks posed by the multiple sources of environmental pollution in and around their community. We feel strongly that this grant will add significantly to the database for pollutants of concern in this geographic area, and provide important information to our mission of informing and educating the at-risk neighborhoods in the study area. Dr. Marilyn Howarth, the CEC Director, has worked with the US EPA Superfund Community Advisory Group in neighboring Eastwick on environmental health literacy and the cumulative health impacts of the multiple sources to which they are exposed. They have repeatedly shared with us their health concerns. However, the paucity of data that exists makes it difficult to be fully responsive to the needs of the community. We feel that enhanced monitoring will address this need, and will assist our mission to enhance local understanding of community air pollution problems and devlop permanent sulotions that improve safeguards to reduce health risks to local citizenry.

During the June 2019 explosion at the PES refinery, the reliance on monitoring data of selected HAPs became a major focus of the exposed populaton. As a result, the need to upgrade the monitoring capabilities became very apparent to many investigators. To fulfill this major need in assessing cumulative and aggregate sources of air pollution, we strongly urge funding of this grant application to AMS. We have great confidence in their technical and management skills to use future data to better assess community risks and to develop strategies that will enhance safeguards for this vulnerable population. We urge EPA to provide funding for this grant opportunity in order that AMS can better perform the mission of protecting the City of Philadelphia from future air pollution risks.

Sincerely,

Richard V. Pepino

Richard V. Pepino, Deputy Director
Community Engagement Core
Center of Excellence in Environmental Toxicology
Perelman School of Medicine at the University of Pennsylvania

KASSAHUN G. SELLASSIE, Ph.D., PE
Ex. 6 Personal Privacy (PP)
Ex. 6 Personal Privacy (PP)
E-mail: kassahun.sellassie@phila.gov

BACKGROUND

American citizenship with permanent residence in the United States of America.

EXPERIENCE SUMMARY

Director for Air Management Services (AMS) since 2015

2 years in Civil Engineering Management, soils and material testing and evaluations, environmental engineering research and analysis of air, hazardous contaminates, biosolids, remediation, pollution control and systems; and 14 years of laboratory and field analysis of air samples such as toxics, carbonyls, and criteria pollutants at the AMS Laboratory, air pollution analysis, permitting, enforcement, and Settlements of violations, progressively responsible in a planned, designed, and managed a variety of projects, pollutant transport, risk assessment, air management, environmental projects inventory and analysis.

- **Environmental** (greenhouse gas, air permitting, and pollution, environmental regulatory compliance), environmental air quality compliance projects, including air quality permitting, estimating emissions, Title V and NESHAP compliance, database management, development of source category specific emission factors, regulatory analysis and reporting. Combustion emission factor development and combustion modeling, new source review (NSR) including prevention of significant deterioration (PSD), air emission inventories (AEI), best available control technology (BACT)/lowest achievable emission achievable rate (LAER), best available retrofit technology (BART), maximum allowable control technology (MACT) evaluations, dispersion modeling, combustion modeling and instrumentation set up and calibration, Enforcement actions and settlements of both minor and major sources violations, and emissions inventories. Reasonably Available Control Technology (RACT) case-by-case analysis and determination of presumptive RACT by utilizing engineering economics for detail cost effective analysis. Work on major sources permitting and enforcement, RACT, BACT, NSR, and NSPS analysis such as Sunoco Refinery (PES), Honeywell, Various Universities, and Industries.
- **Prepared, coordinated, and directed** the preparation and modification of reports, specifications, plans, schedules, environmental impact studies, and designs for projects.
- **Managing, leading, and coordinating** the work of 75 employees related to air pollution, laboratory sampling and testing, air monitoring, permitting, enforcement, research, and administration

WORK HISTORY

- City of Philadelphia, Philadelphia, PA. Director. Jan. 2004 to Present
- Executive board member of MARAMA since 2015
- Executive board member of NACAA since 2015
- EPA region III member of state air directors since 2015
- Guest lecturer at University of Penn at Penn Medicine since 2019 up to date
- Temple University's College of Public Health's Department of Epidemiology and Biostatistics member of the panel to interview tenure-track faculty candidates since 2016 up to date
- Board member of the University of Penn Center of Excellence in Environmental Toxicology (CEET) since 2015 UpToDate.
- HTS, Atlanta GA. Director of Construction and Environmental. June 2003 to December 2004
- Lehigh University, Bethlehem, PA. Research and project manager and teaching assistant at Lehigh University. August 1998 to June 2003.
- Howard University, Washington, D.C. Research and project manager. August 1996 to May 1998.

RECENT PROJECTS

- EJ communities policy
- Philadelphia Air Quality Survey project that monitors and measures criteria pollutants, Black Carbon, and speciation data throughout Philadelphia at more than 50 locations
- Community Scale Air Toxics project to measure toxics at the former Refinery area
- Promulgating regulations to ban heavy fuel oil in Philadelphia, to use max 15 ppm sulfur content of fuel #2 in Philadelphia
- Promulgate Dust control regulation from construction and demolition
- Promulgating regulation to ban usage of perc in dry cleanings
- Promulgating regulation for Risk Assessment
- Air Quality study at the Philadelphia port and refinery locations
- Reasonably Available Control Technology (RACT) case-by-case analysis and determination of presumptive RACT by utilizing engineering economics for detail cost effective analysis for Sunoco Refinery (PES), Honeywell, Exelon, Veolia, Temple University, University of Pennsylvania and others. City of Philadelphia.
- Research and study on Toxic substances, Green House Gases, renewable energy, airport pollution analysis, port and criteria pollutants, air permitting, enforcements and actions, air violations settlements, emissions inventories, coordinating and managing engineers and consultants' work. City of Philadelphia.
- Experimental and Numerical Modeling of One Dimensional Heat Conduction of waste materials, landfill design, bioremediation, and cost analysis. Lehigh University, 2000 - 2003.
- Pennsylvania Department of Transportation (Penn DOT) project on the use of Waste Materials for embankment materials, slope stability, and Cost analysis, Lehigh University, 2000 – 2002.
- Determining the effectiveness of capping contaminated marine sediment, Radioactive wastes, US Army Corps of Engineers, Waterways Experiment Station, Lehigh University, 1998 - 2000.
- Accessing Federal Databases for Contaminated Site Clean-Up Technologies, Howard University, Semester's Project, 1997 - 1998.
- Hazardous Waste Management, Landfill Design, and Risk Assessment, Howard University, 1997-1998
- Water and Waste Water Treatment Design, Howard University, 1996 – 1997.
- Multi-media environmental investigation, Risk assessment, Howard University, 1996 - 1997.

PROFESSIONAL MEMBERSHIP

American Society of Civil Engineers (ASCE),American Water Works Association (AWWA), National Society of Black Engineers (NSBE).

COMPUTER SKILLS

PASTABLM (Slope stability analysis program), HELP, HEC-1, EXCEL, Windows and MS-DOS operating systems, PUMPTEST (Hydrologic software), Microsoft Word, and PowerPoint. MathCAD, Sigma Plot, Crystal Report, SWMM, Primavera, SCREEN3, AERMOD, and HEC-II, PRMS (Precipitation Run-off Modeling) ,

AWARDS

Certificate of Excellence, Demonstrative Sessions During The S.T.A.R. Academies 2002-2003 academic year, Lehigh University, Bethlehem, PA.

INTERNATIONAL RECOGNITION

Waste Management & Research Referee: Reviewing manuscripts for Waste Management & Research Journal.

PROFESSIONAL ENGINEERING LICENSE (PE) PE078742: From Commonwealth of Pennsylvania

LANGUAGES : Fluent in English and Amharic, Proficient in French and Spanish.

EDUCATION:

Doctor of Philosophy, Ph.D. Degree, Civil and Environmental Engineering.
Lehigh University, Bethlehem, PA, January, 2005. GPA: 3.5

Master of Engineering, M.Sc Degree, Environmental Engineering.

Howard University, Washington, D.C., May 1998. GPA: 3.85

Post Graduate Degree in International Construction, Specialized in Project Management and International Design and Construction. Lund University, Sweden.

Master of Science, Civil Engineering. Budapest Engineering University.

Bachelor of Science, Civil Engineering. Addis Ababa University.

PUBLICATIONS

Sellassie, K. ., Myers, T., Tardy, B., Ledbetter, R., Ellis, W., and Moo-Young, H.K (2001). "Determination of the Environmental Impact of Consolidation Induced Convective Transport Through Capped Sediment Using a Research Centrifuge." Journal of Hazardous Materials. Vol. 85, pp. 53-72.

Sellassie, K. , Moo-Young, H.K., and Sabnis, G. (2002). " Physical and Chemical Properties of Tire Shred for Use in Construction of Embankments." Journal of Environmental Engineering. Vol. 129, Number 10, pp. 921-929.

Sellassie, K. , Moo-Young, H.K., and Sabnis, G. (2002). "Guidance document for scrap tires utilization in embankment, Final report, Pennsylvania Department of Transportation, Harrisburg, PA.

Sellassie, K. and Moo-Young, H.K. (2004). " Determination of the Initial Exothermic Reaction of Shredded Tires in Embankment Construction." Journal of Waste Management & Research. Vol. 22, No. 5, pp. 364-370
Sellassie, K. and Moo-Young, H.K. (2005). " Thermal Conductivity of Shredded Tires." Journal of Inderscience publishers. Vol. 1, No. 2/3, 2007

MENELIK NEGASH

321 S University Avenue, Philadelphia, PA 19104, menelik.negash@phila.gov Ex. 6 Personal Privacy (PP)

Objective

'Employ My Profession and Experience to Work Diligently with People Across the Board to Create Safe and Clean Environment for All'

Work Experience

Graduate Environmental Engineer (Program Services)
Air Management Services Jan 10, 2022-now Philadelphia, PA

- Perform research and development activities related to air pollution control, air monitoring, permitting and source registration
- Overlook project planning, quality assurance practices, data collection and data analysis in ongoing projects such as Philadelphia Air Quality Survey

Research/Teaching Graduate Assistant
Oklahoma State University Jan 2014 – May 2017 Still Water, Oklahoma

- Designed bio-oil products that will reduce environmental impacts for diesel engines.
- Developed a kinetic model for multi-phase carbon nano-tube catalyzed reaction system for bio-oil upgrading
- Showed the applicability of predictive models for solvent selection for industrial use, such as biphasic reactors, to help reduce waste generated to the environment from industrial processes

Lecturer/Assistant Lecturer
Bahir Dar University May 2004 – June 2013 Bahirdar, Ethiopia

- Offered and assisted courses such as Air Pollution Control, Environmental Engineering I, Environmental Engineering II, Solid Waste Management, and Environmental LCA (life cycle assessment) courses for undergraduate class

Assistant Production Manager
Dakasos Sankalle lime Sep 2009 – June 2010 Addis Ababa, Ethiopia

- Established experimental testing for heating value of oil and product quality of lime.
- Devised a strategy for procuring alternative fuel supply for the limekiln.
- Conducted research to find the optimum size of gravels feed to the kiln.
- Participated in the kiln-design team for expansion of the existing facilities

Education

Oklahoma State University August 2013 – June 2017 Stillwater, OK

- Ph.D, Chemical Engineering
- Dissertation: Modeling Biphasic Reactors, Emulsions and Selection of Solvent

Addis Ababa University Sep 2007 – July 2010 Addis Ababa, Ethiopia

- M.Sc, Chemical Engineering
- Thesis: Biodiesel production from microalgae: Experiment, Simulation and Project Evaluation Using ASPEN Plus and ICARUS

Bahir Dar University Sep 1999 – July 2004 Bahir Dar, Ethiopia

- B.Sc, Chemical Engineering

Computer Skills

Programming Languages: VBA, MATLAB, Python, R, ChemCAD, HYSYS, ASPEN Plus
Basic Computer skills: MS Office, MS Outlook

Languages

Professional fluent in written and spoken: English, Amharic

Jiazheng Li

321 S. University Ave, 2nd Fl., Philadelphia, PA 19104

215-685-9440 (office) • Jiazheng.Li@phila.gov

SKILL/EXPERIENCE HIGHLIGHTS

- Air quality monitoring, monitoring network planning
- Air quality data and monitoring QA/QC protocols/regulations
- Air quality modeling (AERMOD), data analysis and processing
- Air quality planning (SIP related), policy and legislative analysis and review
- Environmental engineering research experience, lab and analytical skills
- Environmental engineering design/calculation/drawing
- IT and database skills (Oracle, SQL scripts, VC and VB programming, computer usage)
- Strong verbal and written communication skills

PROFESSIONAL EXPERIENCE

City of Philadelphia, Air Management Services (AMS): Philadelphia, PA - Environmental Engineering Supervisor / Acting Administrative Engineer (previously Graduate Engineer, Engineer I, Engineer II, Engineering Specialist), 02/2009 – present

- Lead a unit at AMS in technical support for air quality management and monitoring
- Conduct research related work in planning and implementing a Philadelphia city-wide ambient air monitoring network to measure neighborhood scale criteria pollutants, building a basis of monitoring data with spatial and temporal variances to support health effects studies
- Perform reviews, analyses and technical support on air quality policies and legislative proposals, conducted drafting of proposed air pollution control guidance/regulation
- Perform data analysis related to air monitoring network planning
- Worked as the primary role in performing air quality modeling (AERMOD), reviewing modeling reports submitted by permit applicants
- Performed air pollution source emission inventories, including the Port of Philadelphia emission inventory
- Performed air quality SIP (State Implementation Plan) related document reviews, analysis, documentation
- Participated in outreach activities with local communities
- Performed quality assurance and Clean Air Act regulation related work with the air monitoring network of the City of Philadelphia; participated in community air monitoring collaboration
- Worked with Oracle and SQL databases while performing air monitoring data management
- Took charge of creating SOPs of field operations and lab analytical procedures for the air monitoring routines
- Provided quality control guidance and advice to field operations and lab analytical procedures for the air monitoring routines

ALK Technologies: Princeton, NJ - Software Engineer, 09/2008 – 01/2009

- Worked in development for IT system data processing

Cerner Corporation: Kansas City, MO - Software Engineer, 08/1998 – 8/2007

- Worked in programming and design for healthcare IT system using Visual C++, Visual Basic, and SQL

Oklahoma State University: Stillwater, OK - Research / Teaching Assistant in Environmental Engineering, 08/1993 – 05/1998

- Conducted research on environmental transformation processes of toxic organic contaminants in underground conditions
- Investigated engineering techniques in biodegrading toxic pollutants such as Trinitrotoluene (TNT)

EDUCATION

Ph.D., Civil and Environmental Engineering, Oklahoma State University, Stillwater, OK, 1998; **M.S., Computer Science**, Oklahoma State University, Stillwater, OK, 1999; **B.S., Civil and Environmental Engineering**, Tsinghua University, Beijing, China

REFERENCES Available upon request

PARESH MEHTA

Ex. 6 Personal Privacy (PP) paresh.mehta@phila.gov, Ex. 6 Personal Privacy (PP)

Work Experience

Acting Air Management Administrative Engineer
Air Management Services Jan, 2022-now Philadelphia, PA

- Oversee the day-to-day operation of the air management services laboratory
- Overlook the delivery of all technical services required for air management code and regulation enforcement
- Perform research and development activities related to sampling and analysis of environmental contaminants
- Evaluate technical services programs and activities
- Deliver goals and objectives for the air management services laboratory within the overall departmental objectives
- Allocate and assign laboratory resources and personnel to optimize delivery of essential services
- Prepared air management services laboratory budget and compile grant proposal packages
- Create written reports regarding technical environmental services
- Maintain external funding sources and establish cooperative projects with external agencies to maximize facility resources

Air Management Engineering Supervisor/Graduate Environmental Engineer
Air Management Services Jan 2001- 2022 Philadelphia, PA

- Overlook the delivery of all technical services required for air management code and regulation enforcement
- Perform research and development activities related to sampling and analysis of environmental contaminants
- Evaluate technical services programs and activities
- Deliver goals and objectives for the air management services laboratory within the overall departmental objectives
- Allocate and assign laboratory resources and personnel to optimize delivery of essential services
- Prepared air management services laboratory budget and compile grant proposal packages
- Create written reports regarding technical environmental services
- Maintain external funding sources and establish cooperative projects with external agencies to maximize facility resources

Education

Saurastra University August 1984 – June 1988 India

- BS.C, Mechanical Engineering

Computer Skills

Programming Languages: VBA, SQL
Basic Computer skills: MS Office, MS Outlook

Languages

Professional fluent in written and spoken: English, Hindi, Gujarati, Marathi